[illegible]

[illegible] 05-04-73

[illegible] 01 A

[illegible] 05-04-75

Change of Name
Changement de nom

Change of Location
Changement de emplacement 63° 09' 29.84" - 122° 54' 59.80"
63.15829 - 122.9166

INDEX	DATE RECEIVED RECU LE		INDEX
Application for a Drilling Authority	22-02-73	K	Demande d'autorisation de forage
Well Completion Data	31-8-73	K	Renseignements sur le forage d'un puits
Well History Report	31-8-73	K	Données chronologiques sur le puits
Application to Amend a Drilling Authority	30-4-73	K	Demande de modification d'une autorisation de forage
Application to Change a Well Name			Demande de changement du nom d'un puits
Application to Abandon a Well or Suspend Drilling	28-5-73	K	Demande d'abandon d'un puits ou de suspension du forage
Application to Alter Condition of a Well			Demande d'autorisation de modifier l'état d'un puits
Well History Supplement			Supplément aux données chronologiques sur le puits
Well Completion Data			Renseignements sur le forage d'un puits
Work-Over Report No.			Rapport de reconditionnement n° . . . . .
Application to Commingle Production Before Measurement			Demande d'autorisation de mélanger la production avant jaugeage
Data for Back Pressure Test on Natural Gas Wells			Données de calcul de la capacité de production d'un puits de gaz naturel — Méthode graphique n° 2
Data for Back Pressure Test on Natural Gas Wells			Données de calcul de la capacité de production d'un puits de gas naturel — Méthode de Vogel
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]	23-2-73	K	[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]	8-1-73	K	[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]

ANALYSES

Sample Échantillon	Lab. No. Lab. nº	Formation	Interval Intervalle

A.O.F. Potential Débit maximal absolu d'un puits	Formation	Interval Intervalle	MC.F/D. M.P.C./jour	Test Date Date du test

DRILL STEM TESTS: – ESSAIS AUX TIGES

No. Nº	Formation	Interval Intervalle

DEPARTMENT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT
MINISTÈRE DES AFFAIRES INDIENNES ET DU NORD CANADIEN

OIL & MINERAL DIVISION
DIVISION DU PÉTROLE ET DES MINÉRAUX

WELL COMPLETION DATA
RENSEIGNEMENTS SUR LES FORAGES

Drilling Authority No. 665
N° de l'autorisation de forage

Date Issued Feb. 15/73
Date de délivrance

To be submitted in duplicate within thirty days after the completion, rework, abandonment, recompletion or suspension of every well.
À présenter en double dans les trente jours suivant l'achèvement, le remaniement, l'abandon et le reconditionnement de chaque puits, ou après suspension.

Well Name & No. – *Nom et n° du puits*	Permit No. – *N° de permis*	Lease No. – *N° de concession*
HB Gulf Fish Lake G-60	4680	

(Permittee, License, Lessee) – *(Détenteur de permis ou de licence, du concessionnaire)*	Exploratory Licence No. – *N° de licence de sondage*
Gulf	1530
(Operator) – *(Exécutant)*	Exploratory Licence No. – *N° de licence de sondage*
Hudson's Bay Oil & Gas Company Limited	1503

LOCATION – *EMPLACEMENT*

Unit – *Unité*	Section	Grid – *Étendue quadrillée*	Latitude	Longitude
G	60	63-10-122-45	63°09'29.84 N.	122°54'59.80 W.

Unique Well Identifier – *Code d'ordinateur*	Universal Well Location Reference – *Références universelles d'emplacement du puits*
300G606 310122450	Lat.63.15829°N, Long. 122.91661°W

	Date	Depth – *Profoneur*
Spudded *Début des travaux*	Feb.25/73	
Suspended *Suspension des travaux*		
Resumed Operations *Reprise des travaux*		
Finished Drilling *Forage terminé*	Apr.2/73	5495
Deepened *Approfondissement*		
Complete (Gas/Oil) *Achèvement (Gaz/Pétrole)*		
Abandoned *Abandon*	Apr.5/73	5495
Rig Released *Fin des travaux*	Apr.5/73	5495

Pool(s) *Gisement(s)*

Interval(s) Open to Production *Intervalle(s) de production*

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
CONSERVATION ENGINEER
MAY 25 1973
YELLOWKNIFE, N.W.T.
CONSERVATION & DEVELOPMENT BRANCH

Elevation: Gr. *Altitude du sol* 1265 K.B. *du carré d'entraînement* 1277

Rig No. *N° de la tour de forage* 12 Drilling Contractor *Entrepreneur en forage* Commonwealth

Contractor's Business Licence No. *N° du permis de l'entrepreneur* 10892

CASING RECORD – *TUBAGE*

Casing Size (Inches) *Diamètre (en pouces)*	Grade *Qualité*	Weight *Poids*	Amount *Longeur*	Set at – *Fixation à*	Sacks of Cement and Additives *Sacs de ciment et d'additifs*
1. 13-3/8" OD	K-55	48	617	612	1020
2.					
3.					
4.					
5.					
6.					

Geological Tops *Sommet des formations*	Elevation – *Profondeur* Depths *Sous le niveau du sol*	Sub-Sea *Sous le niveau de la mer*
Ft.Simpson	485	+792
Hume	1640	-363
Manetoe	2130	-853
L.Chin. Evap.	2260	-983
Ernestina	3170	-1893
Lotsberg	3330	-2053
L.Chin.Carb.	3480	-2203
Red Beds	4020	-2743

Core Record – *Carottes*

From – *de*	To – *à*	Rec. *Récupérées*	From – *de*	To – *à*	Rec. *Recup.*

Log Record – *Diagrammes*

Run *Série*	Type of Log *Genre de diagramme*	From – *De*	To – *À*
1	GRSC	5487	610
1	DILL	5482	616
1	FDC	5489	615
1	SNP	5482	615

52-90-2 (7-71)

CEMENTING RECORD (Plug, Squeeze, etc.) CIMENTATION (Bouchon, sous pression, etc.)				PERFORATING RECORD (Bullet, Jet) PERFORATION (à balles, à jet)				SERVICING RECORD (Acidizing, Fracing, etc.) ENTRETIEN (acidification, fracturation, etc.)			
Date	From – de	To – à	Remarks – Remarques	Date	From – de	To – à	Remarks – Remarques	Date	From – de	To – à	Remarks – Remarques
Apr.4/73	5495	5395	50 sacks								
Apr.4/73	2550	2450	50 sacks; felt @ 2435								
Apr.4/73	660	560	100 sacks; felt @ 540								
Apr.5/73	@ surface		10 sacks								
	Welded on steel cap and well name plate										

DRILL STEM TESTS – *ESSAIS AUX TIGES*

No. – N°	Date	Formation	From – de	To – à	V.O. Mins. *Vanne ouverte (minutes)*	I.S.I. Mins. *Première obturation (minutes)*	F.S.I. Mins. *Obturation définitive (minutes)*	I.S.I.B.H.P. *Pression de fond à la 1re obturation*	F.S.I.B.H.P. *Pression de fond à l'obturation définitive*	I.F.B.H.P. *Pression de fond au jaillissement*	F.F.B.H.P. *Pression de fond à l'écoulement définitif*	L.H.P. *Pression hydrostatique de début*	F.H.P. *Pression hydrostatique définitif*	Remarks – *Remarques*
1	Mar.13, 1973	Manetoe	2150	2410	30	30	60	833	791	49	49	1042	1042	Rec. 50 ft. drlg. mud
2	Apr.3, 1973	Red Beds	4281	4478	60	60	60	1849	1788	60	192	1958	1946	Rec. 360 ft. S.W. cut mud

Field Readings Reported

ANALYSIS – *ANALYSE*

Lab. No. *N° de laboratoire*	Sample *Echantillon*	From – de	To – à	Source	Remarks – *Remarques*
7021-3591	Mud	2150'	2460'	D.S.T. #1	
7021-3612	Mud	4281'	4478'	D.S.T. #2	

PRESENT STATUS OF WELL
ETAT ACTUEL DU PUITS

Oil *Pétrole*		(Interval)(Intervalle)
Gas *Gaz*		(Interval)(Intervalle)
Dry *Sec*	X	
Susp. *Travaux sus.*		

Company *Société* Hudson's Bay Oil & Gas Company Limited

Signed by *Signé par* [signature]

Title *Titre* Division Petroleum Engineer

Date May 8, 1973

Forms to be prepared in duplicate and forwarded to the District Conservation Engineer.

Présenter les formules remplies à l'ingénieur en conservation du district.

CANADA

Drilling Authority No. 665

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application to Abandon a Well ~~or Suspend Drilling~~

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to abandon, to suspend drilling:—

Name and number of well: HB Gulf Fish Lake G-60

Location: Unit: G Section: 60 Grid: 63-10-122-45

Latitude: 63°09'26" Longitude: 122°55'05"

From Established Reference Marker:

Universal Well Location Reference: Lat. 63.15829°N; Long. 122.91661°W

Permit No.: 4680 Lease No.:

Gulf
(Permittee, Licencee, Lessee)

Date of commencement of proposed program: April 4, 1973

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at:
Gas at:
Water at: 450-480 feet
Total Depth: 5495 feet KB Date of last operations:
Present condition of well:
Abandon

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
CONSERVATION ENGINEER
MAY 25 1973
YELLOWKNIFE, N.W.T.
NORTHERN ECONOMIC DEVELOPMENT BRANCH

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 13-3/8	48	617	612	1020	5 bbls returned to surface.
2.					
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	5495-5395	Red Beds	50	No feel
2	2550-2450	L. Chin. Evap.	50	felt at 2435'
3	660- 550	casing shoe	100	felt at 540'

The following logs have been run: GRSC, DILL, FDC, SNP

Other operations proposed:

Operations to be carried out by: Commonwealth
Address: 535-7th Ave., S.W. Calgary

Contractor Licence No. 10892
Address: 320-7th Ave., S.W. Calgary

Responsible Agent in field: N. Dease

Dated at: Calgary, this: 8th Day of: May 1973

Signed by: [signature] Company: Hudson's Bay Oil & Gas Company Ltd.

Title: Division Petroleum Engineer Operator's Exploratory Licence No. 1503

Note:—The District Conservation Engineer's office must be notified before work is commenced.

(For OIL AND MINERAL DIVISION use only)

APPROVAL

This application has been examined and proposed programme approved, subject to the following conditions:

Confirming oral approval given April 3, 1973.

Dated: 28-MAY-73, 19

R. L. Price
District Conservation Engineer

IAND 52-90-5 (7-71)

Forms to be submitted in triplicate to District Conservation Engineer, Department of Indian Affairs and Northern Development.

Voir au verso

CANADA

N° de l'autorisation de forage . . . . . .

MINISTÈRE DES AFFAIRES INDIENNES ET DU NORD CANADIEN

DIVISION DU PÉTROLE ET DES MINÉRAUX

Demande d'abandon d'un puits ou de suspension du forage

Conformément au «Règlement sur les terres pétrolifères et gazifères du Canada», nous demandons l'autorisation d'abandonner le puits ci-après ou de suspendre les travaux de forage

Nom et n° du puits . . . . . .

Emplacement: Unité . . . . . Section . . . . . Étendue quadrillée . . . . . .

Latitude . . . . . Longitude . . . . . .

Code d'ordinateur . . . . . .

Références universelles d'emplacement du puits . . . . . .

N° de permis . . . . . N° de concession . . . . . .

. . . . . .

(Détenteur de permis ou de licence, ou concessionnaire)

Date du début d'exécution du programme projeté . . . . . .

PÉTROLE, GAZ ET EAU

(Profondeur)

Pétrole à . . . . . .

Gaz à . . . . . .

Eau à . . . . . .

Profondeur globale . . . . . Date des derniers travaux . . . . . .

État actuel du puits . . . . . .

. . . . . .

. . . . . .

. . . . . .

TUBAGE

Diamètre extérieur (en pouces)	Poids	Longueur	Fixation à	Sacs de ciment et d'additifs	Longueur récupérée
1.					
2.					
3.					
4.					
5.					

PROGRAMME D'ABANDON PROJETÉ

Bouchon		Formation géologique	Nombre de sacs de ciment	Remarques
N°	Profondeur			

Les diagrammes suivants ont été tracés: . . . . . .

Autres travaux projetés . . . . . .

. . . . . .

Les travaux seront exécutés par . . . . . N° de permis de l'entrepreneur . . . . . .

Adresse . . . . . Adresse . . . . . .

Agent extérieur responsable . . . . . .

Fait à . . . . . le . . . . . 19 . . . . . .

Signé par . . . . . Société . . . . . .

Titre . . . . . N° de licence de sondage de l'exécutant . . . . . .

Nota: Aviser le bureau de l'ingénieur en conservation du district avant de commencer les travaux

(À l'usage de la Division du pétrole et des minéraux)

APPROBATION

Demande étudiée et programme approuvé, sous réserve des conditions suivantes:

. . . . . .

. . . . . .

. . . . . .

. . . . . .

Date . . . . . , 19 . . . . . .

Ingénieur en conservation du district

Présenter les formules en triple exemplaire à l'ingénieur en conservation du district ministère des Affaires indiennes et du Nord canadien.

IAND 52-90-5 (7-71)

See Reverse

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION
RIG INSPECTION REPORT

A. Name and number of Well: HB Gulf Fish Lake G-60
Location: 63-10 N. 122-45 W. Drilling Authority No: 665
Date of Inspection: MAR 29/73 Inspection No: 2
Date of Previous Inspection: Mar 9/73
Contractor: Commonwealth
Rig No: 12 Date Spuded Feb 24/73
Operation in Progress: Drlg Depth: 4795 Projected Total Depth: 5750
Last Casing in the Hole: Surf Casing String: 13 3/8 Size: O.D. Depth set: 612 ft.
Liner:
Toolpusher: FLOYD MATHIESON Signature:
Operator's Rep: BILL WALKER Signature: Wm Walker
Cons. Eng: GREG WOOD Signature: G Wood

B. BLOWOUT PREVENTION EQUIPMENT
API Classification 900
Stock Arrangement & Specifications Conform to those submitted with D.A. ☐ Yes ☐ No
Present Arrangement of B.O.P. Stack: ☑ Satisfactory ☐ Unsatisfactory
Description and location of Pressure Source and B.O.P. Controls:
Describe B.O.P. & Air Intake Shut-off Tests Witnessed BOP's + Motor shut offs OK

C. MANIFOLD
Manifold Arrangement & Specifications Conform to those submitted with D.A. ☐ Yes ☐ No
Present Arrangement of B.O.P. Stack: ☑ Satisfactory ☐ Unsatisfactory
Working Pressure Rating of Manifold 3000 #

D. Satisfactory	Unsatisfactory	ITEMS	Category
✓		1. Posting of Drilling Authority.	Drilling Authority & Report
✓		2. Posting of warning signs (if in H_2S area) and no smoking signs.	
✓		3. Recording of all required information in tour reports.	
✓		4. B.O.P. equipment appears to be properly connected	Blowout Prevention Equipment
✓		5. B.O.P. equipment tested daily and tests recorded.	
✓		6. Equipment was adequately pressure tested before drilling out casing shoe.	
✓		7. B.O.P. equipment housed, ventillated & heated for winter operations.	
✓		8. Bleed-off & kill lines adequate and properly tied down.	
✓		9. B.O.P. controls and accumulator adequately and properly located.	
✓		10. Crew properly trained and capable of operating B.O.P. equipment.	
✓		11. Engine shut-off controls installed and functional.	Fire Hazards
✓		12. Engine exhausts properly connected with required safety features.	
✓		13. Smoking regulation being observed.	
✓		14. Boilers, electric generators, accumulator & fuel supplies at required distance from well and from each other.	
✓		15. Flare pit, flare line & sump adequate and at required distance from well.	
✓		16. Fire fighting equipment adequate and maintained.	
✓		17. Proper electrical wiring and fittings installed and maintained.	
✓		18. Adequate first aid kits, stretchers and blankets available and maintained.	Personnel Safety
✓		19. Radio in 24 hour operation.	
✓		20. Required personnel have valid first aid certificates.	
✓		21. Breathing apparatus - adequate, accessible and maintained.	
✓		22. Other required personnel safety equipment.	
✓		23. General house keeping and indication of good practice.	General
✓		24. Equipment appears to conform with CEC & WCA standards.	
✓		25. Required deviation surveys being run.	
✓		26. Elimination of potential hazardous conditions.	
✓		27. Adequacy of contingency plans, equipment and supplies.	

E. Remarks & Recommendations (Any comments or action required on items listed above and other items detailed in Inspection Guide should be listed here)

Item No.

CI-502-MR-72

Original to Inspecting Conservation Engineer
First copy to Oil & Mineral Division, Ottawa
Second copy to contractor
Third copy to Operator

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION
RIG INSPECTION REPORT

A. Name and number of Well: HB Gulf Fishlake G-60
Location: 63-10 N. 122-45 W. Drilling Authority No: 665
Date of Inspection: MARCH 9/73 Inspection No: 1
Date of Previous Inspection: —
Contractor: COMMONWEALTH
Rig No: 9 Date Spuded 24 FEB 73
Operation in Progress: DRLG Depth: 1564 Projected Total Depth: 5750
Last Casing in the Hole SURF Casing String: Size 13 3/8 O.D. Depth set 612 ft.
Liner: —
Toolpusher: KEN PLANTE Signature: K. Plante
Operator's Rep: BILL WALKER Signature: [illegible]
Cons. Eng: GREG WOOD Signature: G. Wood

B. BLOWOUT PREVENTION EQUIPMENT

API Classification 900
Stock Arrangement & Specifications Conform to those submitted with D.A. ☑ Yes ☐ No
Present Arrangement of B.O.P. Stack: ☑ Satisfactory ☐ Unsatisfactory
Description and location of Pressure Source and B.O.P. Controls: Floor + remote controls.
Describe B.O.P. & Air Intake Shut-off Tests Witnessed BOP's OK. Motor shut offs ~~and~~ didn't work completely first time & Rechecked shut offs — OK.

C. MANIFOLD

Manifold Arrangement & Specifications Conform to those submitted with D.A. ☑ Yes ☐ No
Present Arrangement of ~~B.O.P.~~ manifold Stack: ☑ Satisfactory ☐ Unsatisfactory
Working Pressure Rating of Manifold 3000 psi

D. Satisfactory	Unsatisfactory	ITEMS	Category
✓		1. Posting of Drilling Authority.	Drilling Authority & Report
✓		2. Posting of warning signs (if in H_2S area) and no smoking signs.	
✓		3. Recording of all required information in tour reports.	
✓		4. B.O.P. equipment appears to be properly connected	Blowout Prevention Equipment
✓		5. B.O.P. equipment tested daily and tests recorded.	
✓		6. Equipment was adequately pressure tested before drilling out casing shoe.	
✓		7. B.O.P. equipment housed, ventilated & heated for winter operations.	
✓		8. Bleed-off & kill lines adequate and properly tied down.	
✓		9. B.O.P. controls and accumulator adequately and properly located.	
✓		10. Crew properly trained and capable of operating B.O.P. equipment.	
✓		11. Engine shut-off controls installed and functional.	Fire Hazards
✓		12. Engine exhausts properly connected with required safety features.	
✓		13. Smoking regulation being observed.	
✓		14. Boilers, electric generators, accumulator & fuel supplies at required distance from well and from each other.	
✓		15. Flare pit, flare line & sump adequate and at required distance from well.	
✓		16. Fire fighting equipment adequate and maintained.	
	X	17. Proper electrical wiring and fittings installed and maintained.	
✓		18. Adequate first aid kits, stretchers and blankets available and maintained.	Personnel Safety
✓		19. Radio in 24 hour operation.	
✓		20. Required personnel have valid first aid certificates.	
✓		21. Breathing apparatus - adequate, accessible and maintained.	
✓		22. Other required personnel safety equipment.	
✓		23. General house keeping and indication of good practice.	General
✓		24. Equipment appears to conform with CEC & WCA standards.	
✓		25. Required deviation surveys being run.	
✓		26. Elimination of potential hazardous conditions.	
✓		27. Adequacy of contingency plans, equipment and supplies.	

E. Remarks & Recommendations (Any comments or action required on items listed above and other items detailed in Inspection Guide should be listed here)

Item No.

17. Coffee pot + toaster in doghouse. Told toolpusher to get rid of toaster and put vapour proof connection on coffee pot.

CI-502—R12-72

Original to Inspecting Conservation Engineer
First copy to Oil & Mineral Division, Ottawa
Second copy to contractor
Third copy to Operator

Drilling Authority No. ....665.....

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to drill:—

Name and number of well ..HB GULF FISH LAKE G-60.....

Location: Unit ....G..... Section ..60..... Grid 63 - 10 - 122 - 45
Latitude 63°09' 26" ..... Longitude 122°55' 05" .....
Unique Well Identifier.... 300G606310122450.....
Universal Well Location Reference... Lat. 63.15722°N., Long. 122.91806°W.....

Elevation: Ground ..... K.B. ..... feet above sea-level.
Well is expected to produce from ..Cambrian..... formation at a depth of about ....5750..... feet. Expected total final depth .....5750.....
Area assigned to well Exploratory.....
(for District Conservation Engineer's use only)

Permit No. ...4680..... Lease No. ..... Acreage ..57990.....
Permittee, licensee, or lessee ..... Gulf.....
Exploratory Licence No. .....1530.....
Surface owned by Crown or .....
(If alienated submit name and address of owner and occupant.)
Petroleum and natural gas rights owned by Crown Department of Northern Affairs and Natural Resource
We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1. 13 3/8	48lbs.	H40	New	600'	Sufficient to
2.					return to surface
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment. Anticipated production horizon will be from the Cambrian. Control equipment will consist of proper drilling fluid and adequate blow out prevention equipment.....

Well will be drilled with Rotary Rig No. ...12..... by ..Commonwealth Drilling.....
(Drilling Contractor or company)

Responsible agent of applicant:— Contractor's Business Licence No. Applied for (10892)
At well..... N. Dease..... At registered office. R.L. Levesque.....
Address .320 - 7th Avenue S.W.. Address .320 - 7th Avenue S.W.....
It is understood that if changes become necessary, notice of the change of plan will be submitted.
Dated at ..Calgary....., this ..... day of ..January..... 19 73
Signed by ..... Company Hudson's Bay Oil & Gas Company Ltd.
Title Division Drilling Foreman Operator's Licence No. ...1503.....

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:

PLEASE SEE ATTACHED SHEET FOR CONDITIONS OF APPROVAL

Dated.... FEBRUARY .15, ...19 73 ..... R. L. Price
District Conservation Engineer

Forms to be submitted to District Conservation Engineer, Department of Indian Affairs and Northern Development.

IAND 52-90-1 (8-71)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
CONSERVATION ENGINEER
FEB 5 1973
YELLOWKNIFE, N.W.T.
NORTHERN ECONOMIC DEVELOPMENT BRANCH

N° de l'autorisation de forage. . . . . .

CANADA

MINISTÈRE DES AFFAIRES INDIENNES ET DU NORD CANADIEN

DIVISION DU PÉTROLE ET DES MINÉRAUX

Demande d'autorisation de forage

Avant de commencer les travaux, soumettre (en triple exemplaire) et faire approuver le présent avis (indiquant l'intention d'entreprendre des travaux de forage) et, au besoin, un plan d'arpentage reconnu par l'arpenteur général, montrant l'aire de sondage ou l'emplacement du puits.

Conformément au «Règlement sur les terres pétrolifères et gazifères du Canada», nous demandons l'autorisation d'effectuer des travaux de forage.

Nom et n° du puits . . . . . .

Emplacement: Unité . . . . . Section . . . . . Étendue quadrillée . . . . . .
Latitude . . . . . Longitude . . . . . .
Code d'ordinateur . . . . . .
Références universelles d'emplacement du puits. . . . . .

Élévation: du sol . . . . . du carré d'entraînement . . . . . pieds au-dessus du niveau de la mer
Production prévue quand les tiges atteindront la formation . . . . . à une profondeur approximative de . . . . . pieds. Profondeur totale prévue. . . . . .
Superficie assignée au puits . . . . . .
(à l'usage de l'ingénieur en conservation du district)

. . . . . .

N° de permis . . . . . N° de concession . . . . . Superficie. . . . . .
Détenteur de permis ou de licence, ou concessionnaire . . . . . .
N° de permis de prospection . . . . . .
Terres appartenant à la Couronne ou à . . . . . .
(Dans le cas de terres aliénées, donner le nom et l'adresse du propriétaire et de l'occupant)
Détenteur(s) des droits pétroliers et gaziers . . . . . .
Nous prévoyons utiliser les colonnes de tubage suivantes et de les cimenter ou de les sceller, tel qu'il est indiqué ci-dessous:—

Diamètre extérieur (en pouces) de tubages	Poids (liv./pi.)	Qualité	Tubages neufs ou usagés	Profondeur estimative	Sacs de ciment
1.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
2.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
3.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
4.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
5.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

Nappes d'eau, de gaz et de pétrole prévues et genre de matériel anti-éruption. . . . . .
. . . . . .
. . . . . .
. . . . . .
Le puits sera foré à l'aide de la tour rotary n° . . . . . par . . . . . .
(Entrepreneur ou société de forage)

. . . . . .

Agent responsable pour le requérant:— N° de permis de l'entrepreneur. . . . . .
Sur le chantier . . . . . Au siège. . . . . .
Adresse . . . . . Adresse . . . . . .
Il est entendu que, dans le cas de modifications indispensables, un avis sera soumis.
Datée . . . . . le . . . . . 19. . . . .
Signé par . . . . . Société. . . . . .
Titre . . . . . N° de licence de sondage de l'exécutant . . . . . .

(À l'usage de la Division du pétrole et des minéraux)

APPROBATION

Demande étudiée et approuvée sous réserve des conditions suivantes:
. . . . . .
. . . . . .
. . . . . .
Date . . . . . 19. . . . . .
Ingénieur en conservation du district

Présenter les formules à l'ingénieur en conservation du district, Ministère des Affaires indiennes et du Nord canadien.

LAND 52-90-1 (8-71)

See Reverse

D.I.A.N.D. — CONDITIONS OF APPROVAL FOR DRILLING AUTHORITY No. 665

WELL HB GULF FISH LAKE G-60 (63-10-122-45) ISSUED FEBRUARY 15, 1973

1. Copies of this Drilling Authority Form and Daily Drilling Report Preparation Requirements Card, shall be posted in full view at the drilling rig, in both the doghouse and drilling foreman's office between spud and rig release dates.

2. The company will submit to this office, on Tuesday morning of each week, a day-by-day progress report summary, on the well, for the past week. (See daily drilling report preparation requirements card for pertinent details.) Phoned-in report format shall be in this order - well name, location, present depth, present activity in progress and past day's pertinent details.

3. All shows (small or large) of oil & gas are to be reported immediately.

4. When a fatal accident occurs the District Conservation Engineer is to be notified immediately and drilling ahead must cease. Permission to resume operations must be granted by the District Conservation Engineer after a fatality.

5. All waste materials on and around the wellsite area, shall be disposed of in a manner that will prevent pollution to adjacent areas. Burnables shall be burned and non-burnables shall be buried with adequate cover or hauled away.

6. Prior to moving to drilling site, a Land Use Permit, for access and a Water Use Permit must be obtained from the Water, Forests and Land Division, Yellowknife. We further draw your attention to Sections 95 and 96 of the Canada Oil & Gas Land Regulations.

7. Forward to this office two (2) field prints of all well logs (except Velocity logs) including copies of core analysis and fluid analysis as soon as they are available.

8. Any changes to, or additions to the approved Drilling Authority must have prior approval of the District Conservation Engineer. For example: total depth, casing depths/specs., location coordinates, well name, datum elevations, operator, contractor.

9. Surface casing to be set 50 feet (min.) into a consolidated formation at the approved depth.

10. 3000# W.P. (Ser. 900) B.O.P.'s are required to 12,000 ft. (max.)
5000# W.P. (Ser.1500) B.O.P.'s are required below 12,000 ft.

11. You are required to notify the Yellowknife Office twenty-four (24) hours before spudding.

R. L. Price

R. L. Price
District Conservation Engineer
District 4

/mj

Drilling Authority No. 665

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

Application to Amend a Drilling Authority

This application, in triplicate, must be submitted and approved before commencing operations. If the well location is changed, this application must be accompanied where required, with a plan of survey approved by the Surveyor General.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made to amend Drilling Authority No. 665, concerning HB GULF FISH LAKE G60

(Name and Number of Well)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
CONSERVATION ENGINEER
APR 19 1973
YELLOWKNIFE, N.W.T.
NORTHERN ECONOMIC DEVELOPMENT BRANCH

Reasons for the amendments: Survey by Hamilton & Olsen would indicate that the Universal Well Location Reference should be changed from 63.15722° N Latitude 122.91806° W Longitude to 63.15829° N Latitude 122.91661° W Longitude.

Dated at Calgary, this 17th day of April, 19 73

Signed by (N. Dease)

Title Division Drilling Foreman

Company Hudson's Bay Oil & Gas Company Limited

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:

Lat. 63° 09' 29.84" N.
Long. 122° 54' 59.80" W.

Date 30-APR-73, 19

R. L. Price
District Conservation Engineer

Forms to be submitted to the District Conservation Engineer, Department of Indian Affairs and Northern Development.

IAND 52-90-3 (8-71)

Voir au verso

N° de l'autorisation de forage: .....

CANADA

MINISTÈRE DES AFFAIRES INDIENNES ET DU NORD CANADIEN

DIVISION DU PÉTROLE ET DES MINÉRAUX

Demande de modification d'une autorisation de forage

La présente demande doit être remplie en trois exemplaires, puis présentée et approuvée avant le début des travaux. Si l'emplacement du (des) puits est modifié, la demande doit être accompagnée, au besoin, d'un levé approuvé par l'Arpenteur général.

Conformément au Règlement sur les terres pétrolifères et gazifères du Canada, il est demandé par la présente de modifier l'autorisation de forage n° ....., concernant .....

.....

(nom du (des) puits et nombre)

Les modifications ci-après sont demandées: .....

.....

.....

.....

.....

.....

.....

.....

Motifs de la demande: .....

.....

.....

.....

.....

Fait à ....., ce ..... jour de ....., 19.....

Signée par .....

Poste: .....

Société: .....

(A l'usage de la Division du pétrole et des minéraux)

APPROBATION

La présente demande a été étudiée et approuvée sous réserve des conditions suivantes: .....

.....

.....

.....

.....

Date: ....., 19 .....

.....

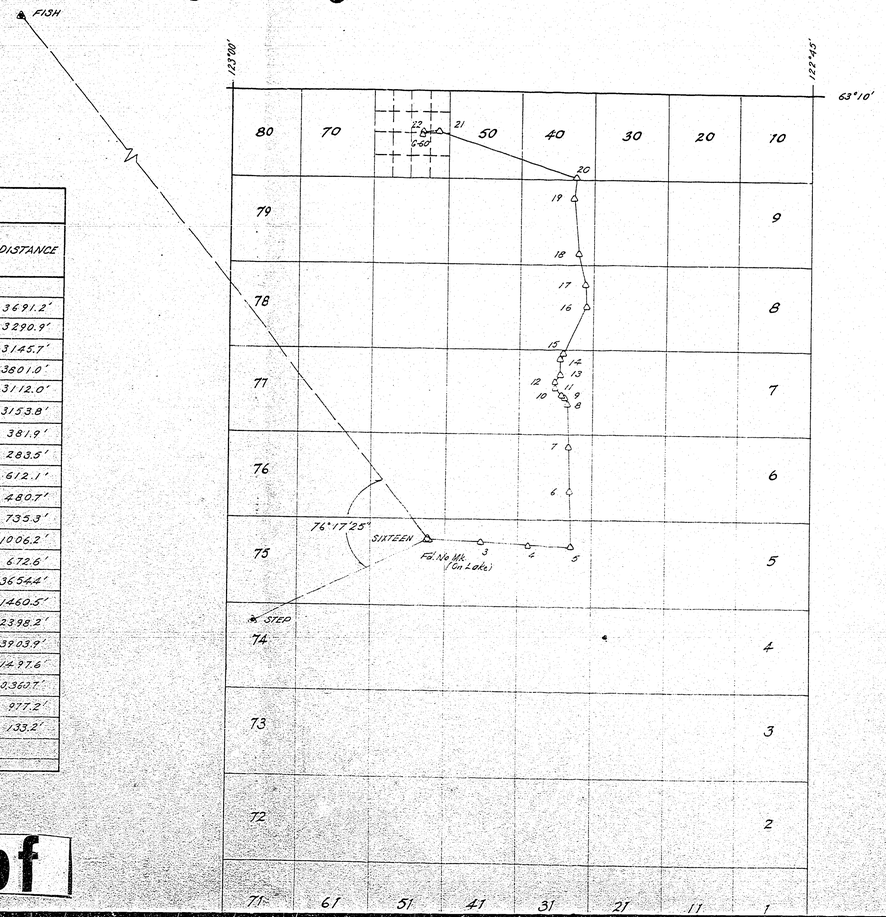
Ingénieur en conservation du district

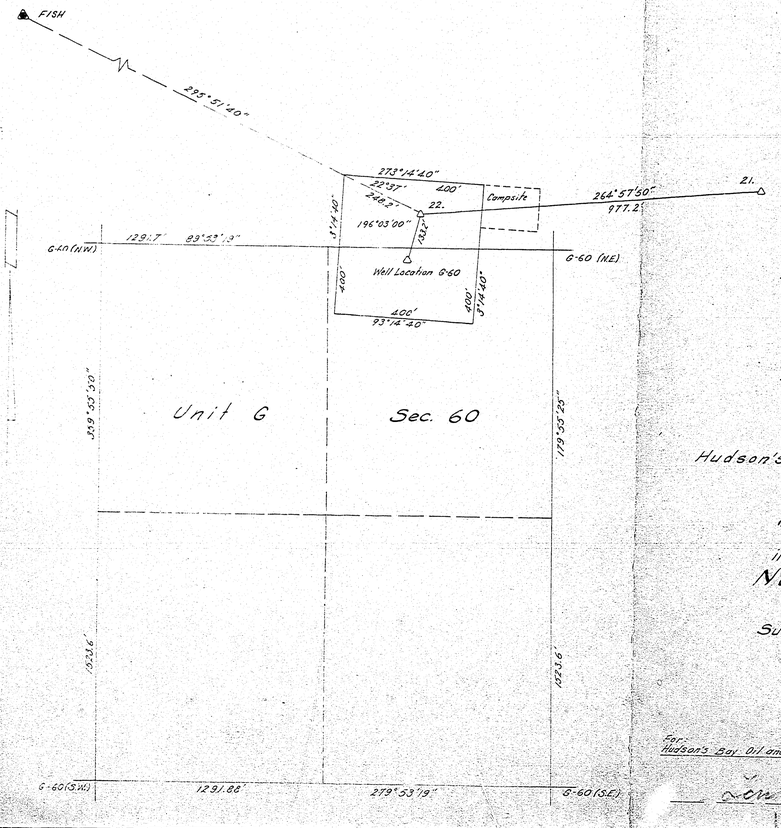
Adresser vos demandes à l'ingénieur en conservation du district.
Ministère des Affaires indiennes et du Nord canadien.

LAND 52-90-3 (8-71)

See Reverse

TRAVERSE TABLE			
STATION	ANGLE	BEARING	DISTANCE
STEP		Assumed 63°07'10"	
SIXTEEN	206°15'40"	91°22'50"	3691.2'
G-60 - 3	180°27'30"	91°50'20"	3290.9'
4	179°29'10"	91°19'30"	3145.7'
5	86°37'00"	357°56'30"	3801.0'
6	180°01'50"	357°58'20"	3112.0'
7	179°59'50"	357°58'10"	3153.8'
8	153°07'40"	331°05'50"	381.9'
9	132°14'20"	283°20'10"	283.5'
10	219°54'50"	323°15'00"	612.1'
11	202°33'30"	345°48'30"	480.7'
12	230°17'10"	396°05'40"	735.3'
13	140°09'10"	356°14'50"	1006.2'
14	218°08'03"	386°22'50"	672.6'
15	178°49'10"	25°12'00"	3654.4'
16	147°16'20"	352°28'20"	1460.5'
17	179°35'40"	352°04'00"	2398.2'
18	180°14'40"	352°18'40"	3903.9'
19	196°25'20"	308°24'00"	1497.6
20	99°13'40"	287°57'40"	10,360.7'
21	157°00'10"	264°57'50"	977.2'
G-60 - 22	111°05'10"	196°03'00"	133.2'
Well Location G-60			





Legend

Triangulation Monuments found are shown thus ▲
Traverse stations planted are shown thus △

Note

Bearings are referred to Longitude 123° West and are derived from the bearing of 63°07'10" between STEP and SIXTEEN as shown on Shell Canada Limited Tellurometer Control Survey Plan (Blackwater Prospect-N.W.T.)

G-60 well as located is 34.7' South and 42.1' West of the N.E. corner of Unit G.
U.W.L.R. Co-ordinates Latitude: 63°15'829"
Longitude: 122°19'601"

Approximate ground Elevation is 1265 and was derived by Trigonometric levelling to Station "Fish"

Hudson's Bay Oil and Gas Company Limite

Plan

of survey of

"HB Gulf Fish Lake G-60"

in unit G-60, 63°10', 122°45'

Northwest Territories

Scale: 1 Inch = 5000 Feet

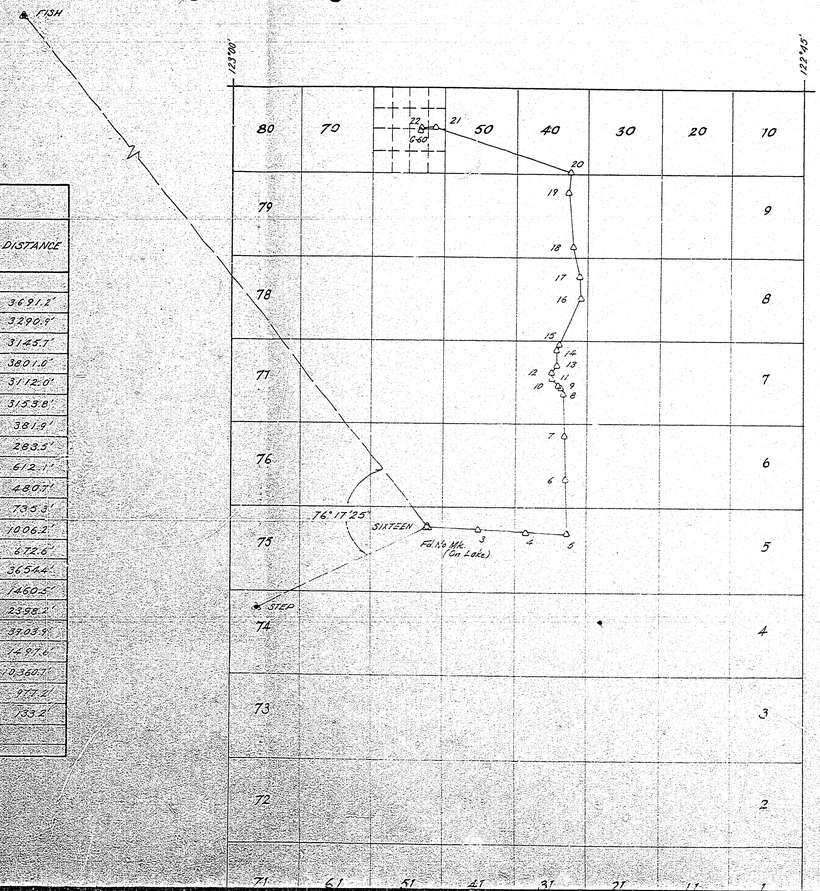
Surveyed: February 9th to 12th, 1973

I, L. O. Gifert, Dominion L
hereby certify that the survey re
this plan was made under my
supervision and that, to the
best of my knowledge and
completed on the 12th day of Feb

For
Hudson's Bay Oil and Gas Company Limited

Dominion Land

1 of



TRAVERSE TABLE			
STATION	ANGLE	BEARING	DISTANCE
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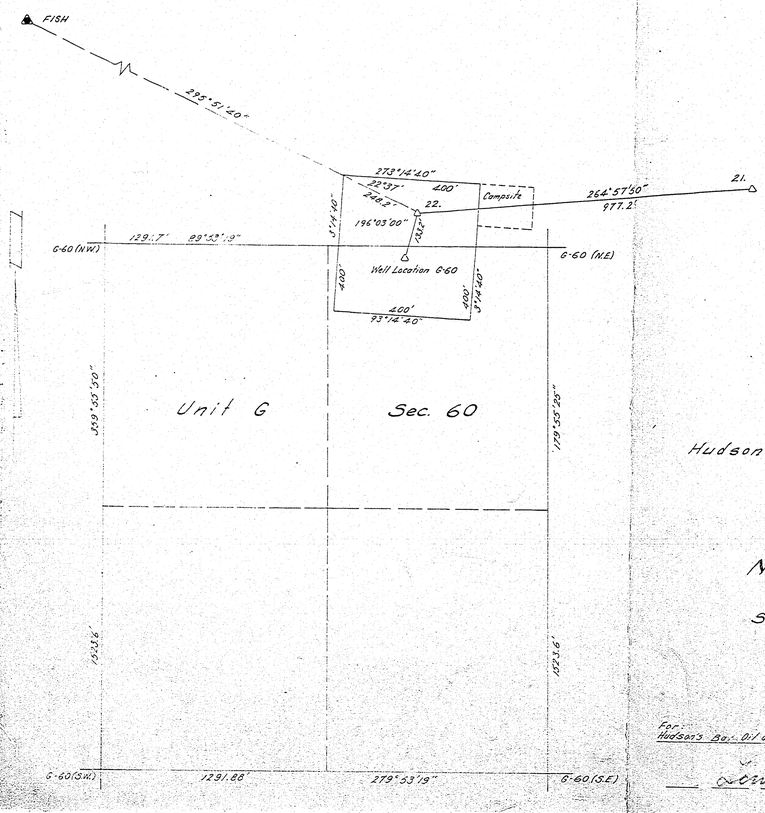
G-60 3	180°27'30"	91°50'20"	3290.9'
4	179°29'10"	91°19'30"	3145.7'
5	86°37'00"	357°56'30"	3801.6'
6	180°01'50"	357°58'20"	3112.0'
7	179°59'50"	357°58'10"	3153.8'
8	193°07'40"	331°05'50"	381.9'
9	132°14'20"	283°20'10"	283.5'
10	279°54'50"	323°15'00"	612.1'
11	202°33'30"	345°28'30"	480.7'
12	230°17'10"	396°03'40"	735.3'
13	120°09'10"	356°14'50"	1006.2'
14	219°08'00"	386°22'50"	672.6'
15	116°49'10"	25°12'00"	365.4'
16	147°16'20"	352°28'20"	1460.5'
17	179°35'40"	352°04'00"	2398.2'
18	180°14'40"	352°18'40"	3903.5'
19	190°25'20"	308°24'00"	14.97'
20	99°13'40"	287°57'40"	10,360.7'
21	157°00'10"	264°57'50"	977.2'
G-60 22	110°01'10"	264°57'50"	977.2'
Well Location G-60		196°03'00"	133.2'



2 of

Legend

Triangulation Monuments found are shown thus.....
Traverse stations planted are shown thus.....

Note

Bearings are referred to Longitude 123° West and are derived from the bearing of 63°07'10" between STEP and SIXTEEN as shown on Shell Canada Limited Tellurometer Control Survey Plan (Blackwater Prospect-N.W.T.)

G-60 well as located is 34.7' South and 421.5' West of the N.E. corner of Unit G.
U.W.L.R. Co ordinates Latitude : 63.15829°
Longitude : 122.91661°

Approximate ground Elevation is 1265' and was derived by Trigonometric levelling to Station "Fish".

Hudson's Bay Oil and Gas Company Limited

Plan

of survey of

"HB Gulf Fish Lake G-60"

in unit G-60, 63°10', 122°45'

Northwest Territories

Scale: 1 Inch = 5000 Feet

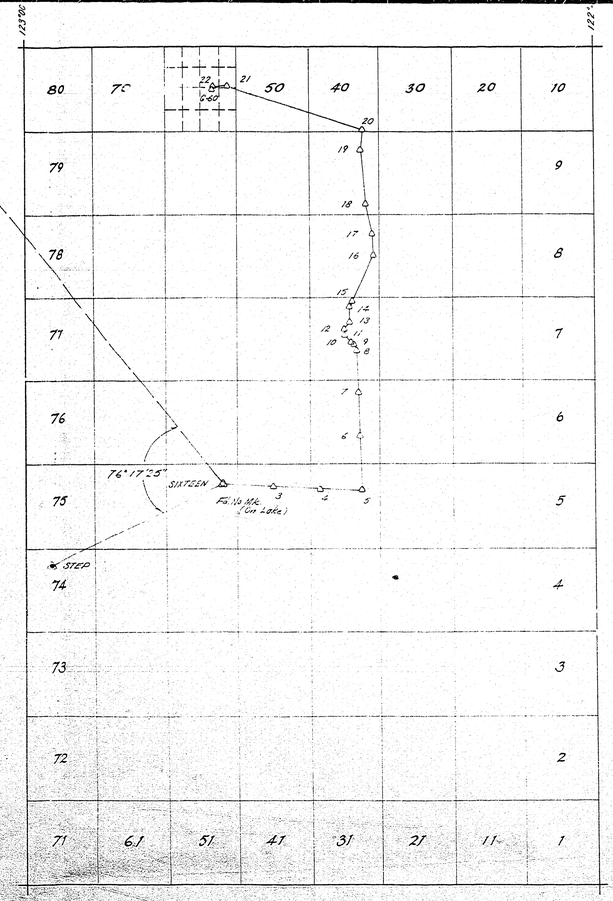
Surveyed: February 9th to 12th, 1973

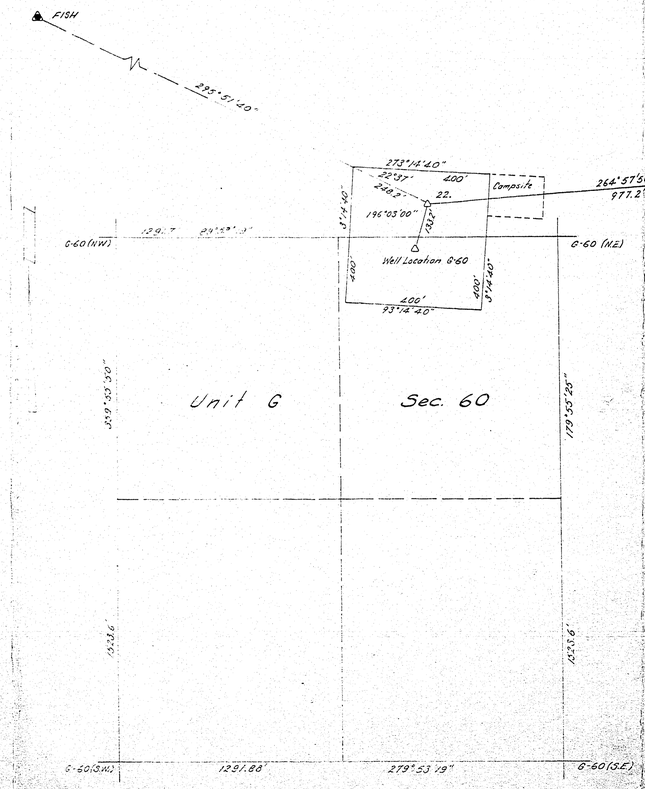
For Hudson's Bay Oil and Gas Company Limited.

I, L. O. Olsen, Dominion Land Surveyor, hereby certify that the survey represented by this plan has been made under my personal supervision and is true and correct to the best of my knowledge and belief and was completed on the 12th day of February 1973.

Dominion Land Surveyor

TRAVERSE TABLE			
STATION	ANGLE	BEARING	DISTANCE
STEP		Assumed 63°07'10"	
SIXTEEN	206°15'40"	91°22'50"	3691.2'
G-60 - 3	180°27'30"	91°50'20"	3290.9'
4	179°29'10"	91°19'30"	3145.7'
5	86°37'00"	357°56'30"	3801.0'
6	180°01'50"	357°58'20"	3112.0'
7	179°59'50"	357°58'10"	3153.8'
8	153°07'40"	331°05'50"	381.9'
9	132°16'20"	283°20'10"	283.5'
10	213°54'50"	323°15'00"	612.1'
11	202°33'30"	345°28'30"	480.7'
12	230°17'10"	396°05'40"	735.3'
13	140°09'10"	356°14'50"	1005.2'
14	210°08'00"	386°22'50"	672.6'
15	178°49'10"	25°12'00"	3654.4'
16	147°16'20"	352°28'20"	1460.5'
17	179°35'40"	352°04'00"	2398.2'
18	180°14'40"	352°18'40"	3903.9'
19	196°25'20"	308°44'00"	1497.6'
20	99°13'40"	287°57'40"	10,360.7'
21	157°00'10"	264°57'50"	977.2'
G-60-22	111°05'10"	196°03'00"	133.2'
Well Location G60			





Scale: 1 Inch = 200 Feet.

Legend

Triangulation Monuments found are shown thus.....▲
Traverse stations planted are shown thus.....△

Note

Bearings are referred to Longitude 123° West and are derived from the bearing of 63°07'10" between STEP and SIXTEEN as shown on Shell Canada Limited Telurometer Control Survey Plan (Baldwater-Prospect-NWT)

G-60 well as located is 34.7' South and 42.15' West of the NE corner of Unit G.
U.W.L.R. Co-ordinates Latitude: 63.15829"
Longitude: 122.91661"

Approximate ground Elevation is 1265 and was derived by Trigonometric levelling to Station "Fish".

Hudson's Bay Oil and Gas Company Lim
Plan
of survey of
"HB Gulf Fish Lake G-60"
in unit G-60, 63°10', 122°45'
Northwest Territories
Scale: 1 Inch = 5000 Feet
Surveyed: February 9th to 12th, 1973

I, L. O. Olsen, Domin
hereby certify that the surve
shown plan has been made
supervision and is true a
Accordingly to the knowledge an
completed on the 12 day of

For
Hudson's Bay Oil and Gas Company Limited.

Witness

Witness

Dominion Land Surv

Hamilton & Olsen
WS-6365, NEO-5

3 of

TRAVERSE TABLE

STATION	ANGLE	BEARING	DISTANCE
STEP		Assumed 65°07'10"	
SIXTEEN	206°15'40"	91°22'50"	3691.2'
G-60 - 3	180°27'30"	91°50'20"	3290.9'
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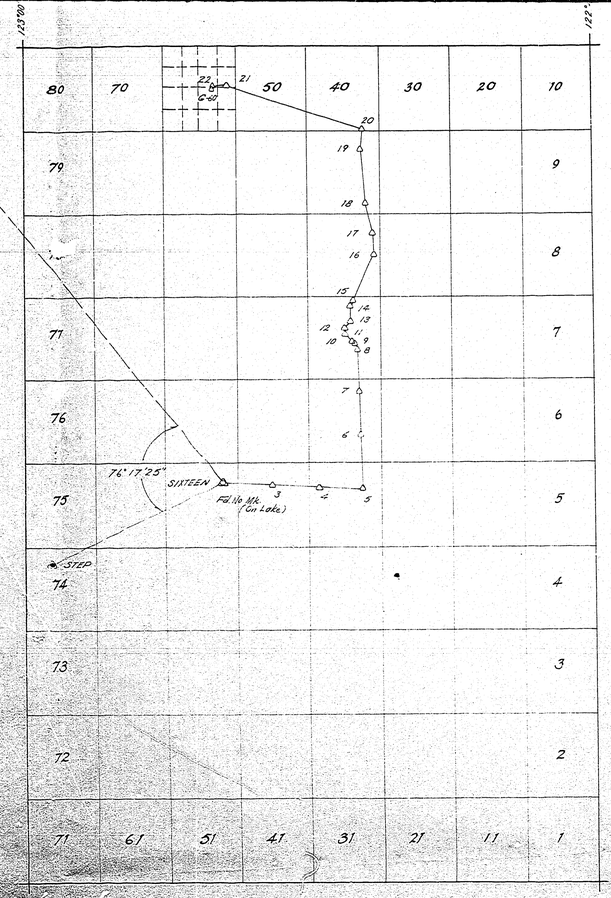
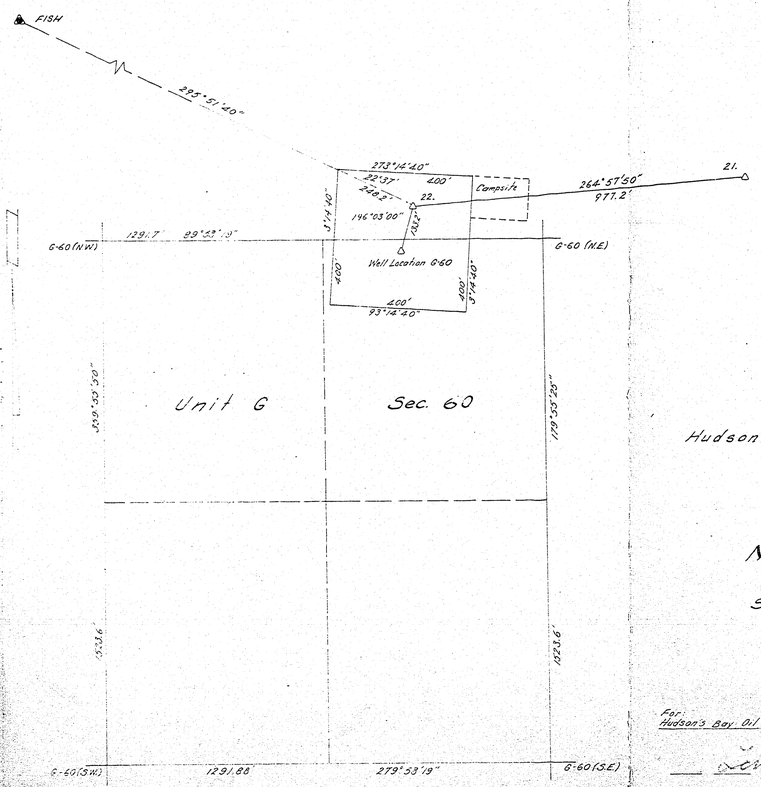
19	194°21'20"	306°44'00"	1497.6'
20	99°23'40"	287°57'40"	0360.7'
21	152°01'50"	264°57'50"	977.2'
G-60 - 22	179°05'10"	196°03'00"	133.2'
Well Location			





Scale 1 Inch = 200 Feet

Legend

Triangulation Monuments found are shown thus.....▲
Traverse stations planted are shown thus.....△

Note

Bearings are referred to Longitude 123° West and are derived from the bearing of 65°07'10" between STEP and SIXTEEN as shown on Shell Canada Limited, Tellurometer Control Survey Plan (Blackwater Prospect-N.W.T.)

G-60 well as located is 34.7' South and 421.5' West of the N.E. corner of Unit G.
U.W.I.R. Co-ordinates Latitude : 63.15829°.
Longitude : 122.91661°.

Approximate ground Elevation is 1265' and was derived by Trigonometric levelling to Station "Fish".

Hudson's Bay Oil and Gas Company Limited

Plan

of survey of

"HB Gulf Fish Lake G-60"

in unit G-61, 63°10', 122°45'

Northwest Territories

Scale: 1 Inch = 5000 Feet

Surveyed: February 9th to 12th, 1973

I, L. O. Olsen, Dominion Land Surveyor, hereby certify that the survey represented by this plan has been made under my personal supervision and is true and correct to the best of my knowledge and belief and was completed on the 12th day of February 1973.

For:
Hudson's Bay Oil and Gas Company Limited.

Dominion Land Surveyor.

Wilfred 33

Hamilton & Olsen Surveys Ltd.
Edmonton Alberta
W.S. 6365, H.E.O. 277-04/09 T.S. K.S.

4 of 4

GEOLOGICAL PROGNOSIS

THIS WELL IS TO BE DRILLED AS A TIGHT HOLE

WELL NAME: HB Gulf Fish Lake G-60 Grd. (est.) 1250'

LOCATION: 63°10'N 122°45'W K.B. (est.) 1262'

GEOLOGICAL MARKERS:

	Estimates			Actual		
	Elev.	Int.	(KB) Depth	Elev.	Int.	(KB) Depth
Upper Devonian	+850	1200				
Hume	-350	425				
Landry Or *Manetoe	-775	400				
L. Chinchaga Evap.	-1175	1150				
*L. Chinchaga Carb.	-2325	220				
*Delorme	-2545	400				
*Ronning	-2945	1515				
Cambrian	-4460					
T.D.	-4495					

* Zones of Interest

NOTES FOR WELLSITE GEOLOGIST:

1. Reference well is Shell Ochre River I-15; 63°30'N 122°45'W.
2. Porous dolomites of the Manetoe formation, may or may not be present. If they are absent the equivalent formation is the Landry, a tight limestone.
3. Porosity may be encountered in the Lower Chinchaga carbonate.
4. The Delorme is a variably sandy dolomite.
5. The Ronning may be unconformably overlain by a thin unit of dolomitic sandstones.
6. The entire Ronning interval is prospective: however particular attention should be given to the top 200', an interval in which significant porosity is present in wells to the south.
7. The reference well encountered faults resulting in thickening of section. A similar situation may occur in this well.

SAMPLES:

1. Catch 10' samples in vials from surface casing to T.D. for HBOG and Gulf.
2. Catch samples as required by D.I.A.D.

HB G[illegible] Fish Lake
63°10'N 122°45'W

MUD:
Mud of adequate quality to ensure good sample quality is to be in the hole from surface casing to T.D.

DRILLING TIME LOG: (By Geolograph)

A drilling time log may be incorporated into the "strip log" at the discretion of the wellsite geologist.

LOGS:

AT WELLSITE ONLY REPRODUCE 5 COPIES OF FIELD LOGS AND 3 COPIES OF GEOL. DESC. FORMS.

1. Dual Induction Laterolog from T.D. to surface casing with 5" detail over carbonate-evaporite interval.

2. Gamma Ray Borehole Compensated Sonic Log from T.D. to surface casing with 5" detail over carbonate-evaporite interval.

3. Compensated Formation Density and Sidewall Neutron Porosity Log from T.D. to surface casing with 5" detail over carbonate-evaporite interval.

4. Porosity Lithology Log.

5. Continuous Dipmeter, Four Arm Digital; interval to be determined later.

CORING AND TESTING:

1. In any porous zone, test first 20' of porosity. If productive, core and test 60' intervals until zone is penetrated or water is encountered.

FLUID SAMPLES:

Representative fluid samples of all DST's from top, middle and bottom of the fluid column are required for analysis. All are to be forwarded along with cores to the respective Chemical and Geological Labs. Provide the logging company with a second set of samples for Rw determinations and have these values recorded on the field logs.

DAILY REPORTS:

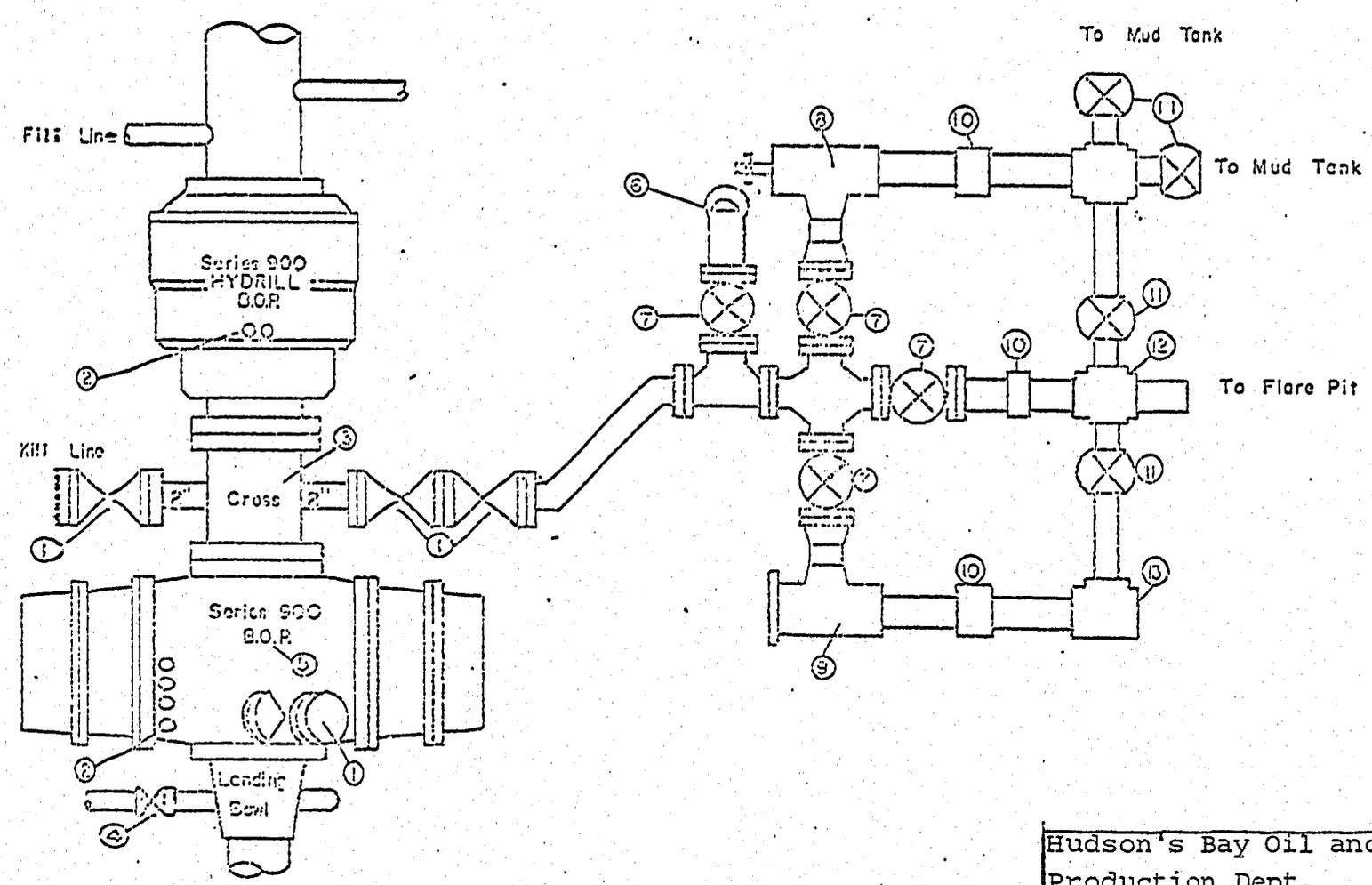
Moe C. LeBlanc	267-2432	(bus.)	or	George Dann	267-2430	(bus.)
	262-9019	(res.)			249-8420	(res.)

G. Dann
District Geologist

Manager, Geological Section

DISTRIBUTION:

Production H.Q.	7
G. Dann	1
M. C. LeBlanc	1
Gulf	2
Wellsite Geologist	2



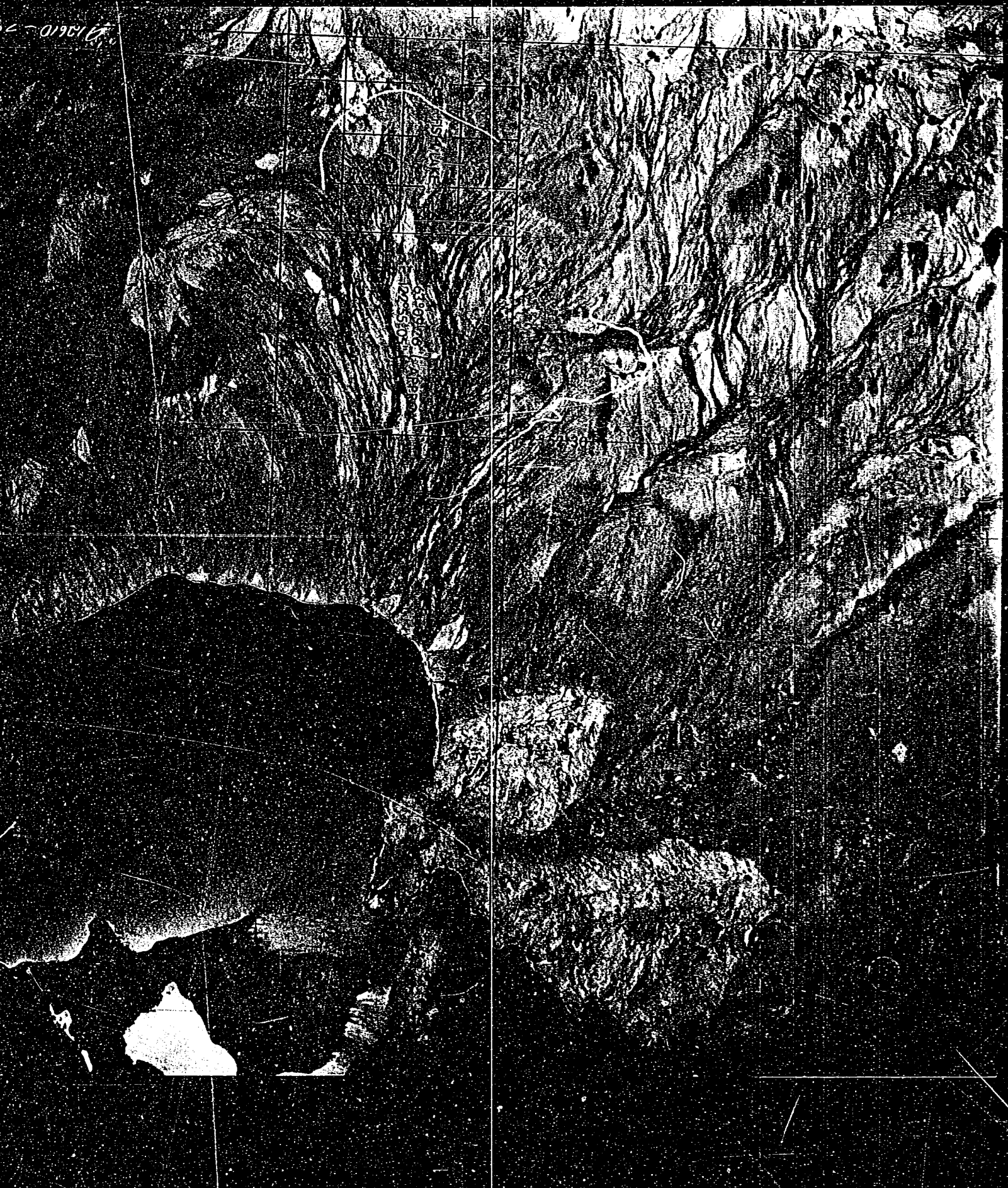
Hudson's Bay Oil and Gas Company Limited
Production Dept. Edmonton District

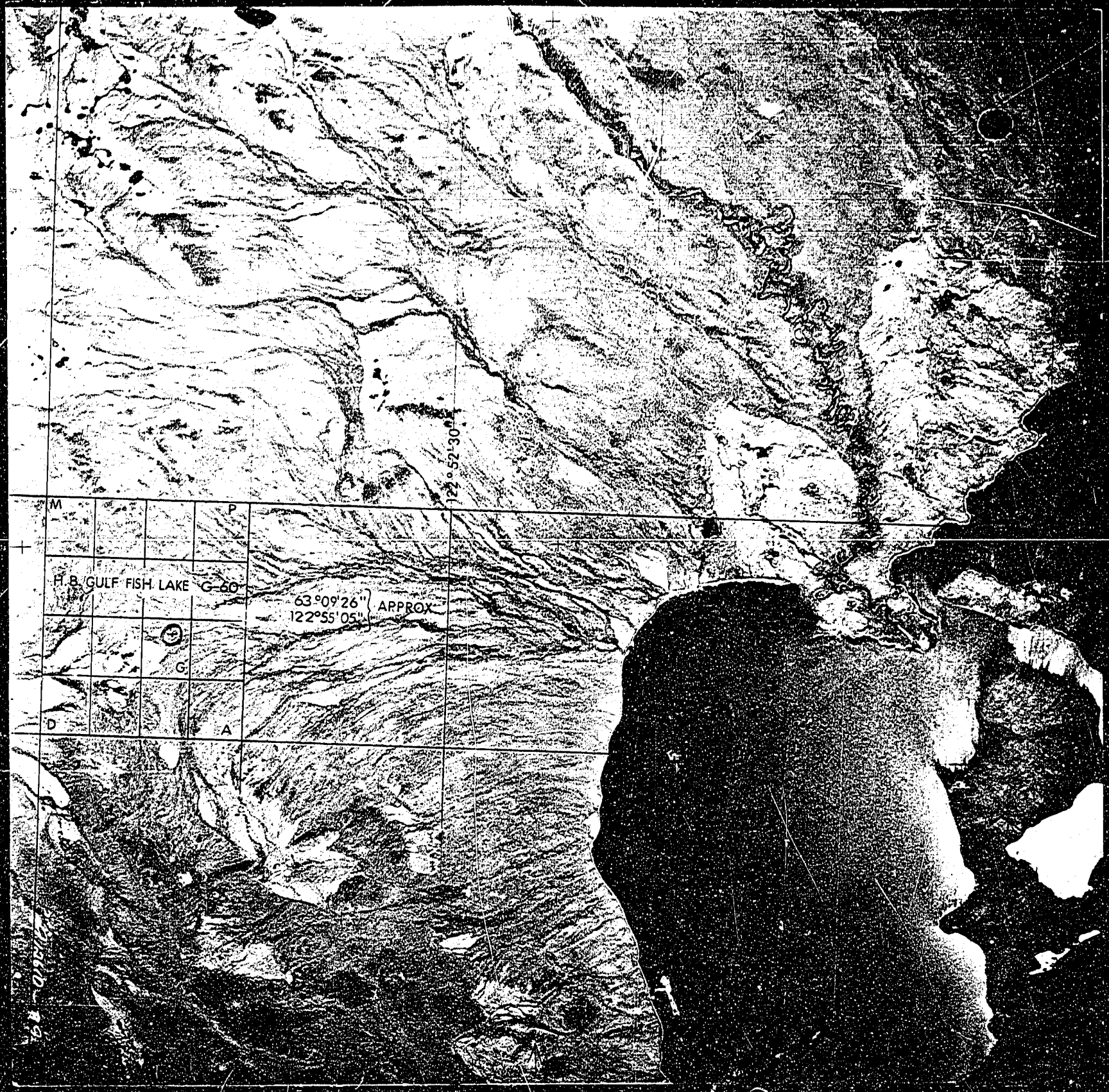
BOP SYSTEM & BLOWDOWN MANIFOLD
HB GULF FISH LAKE G-60
COMMONWEALTH DRILLING No.12

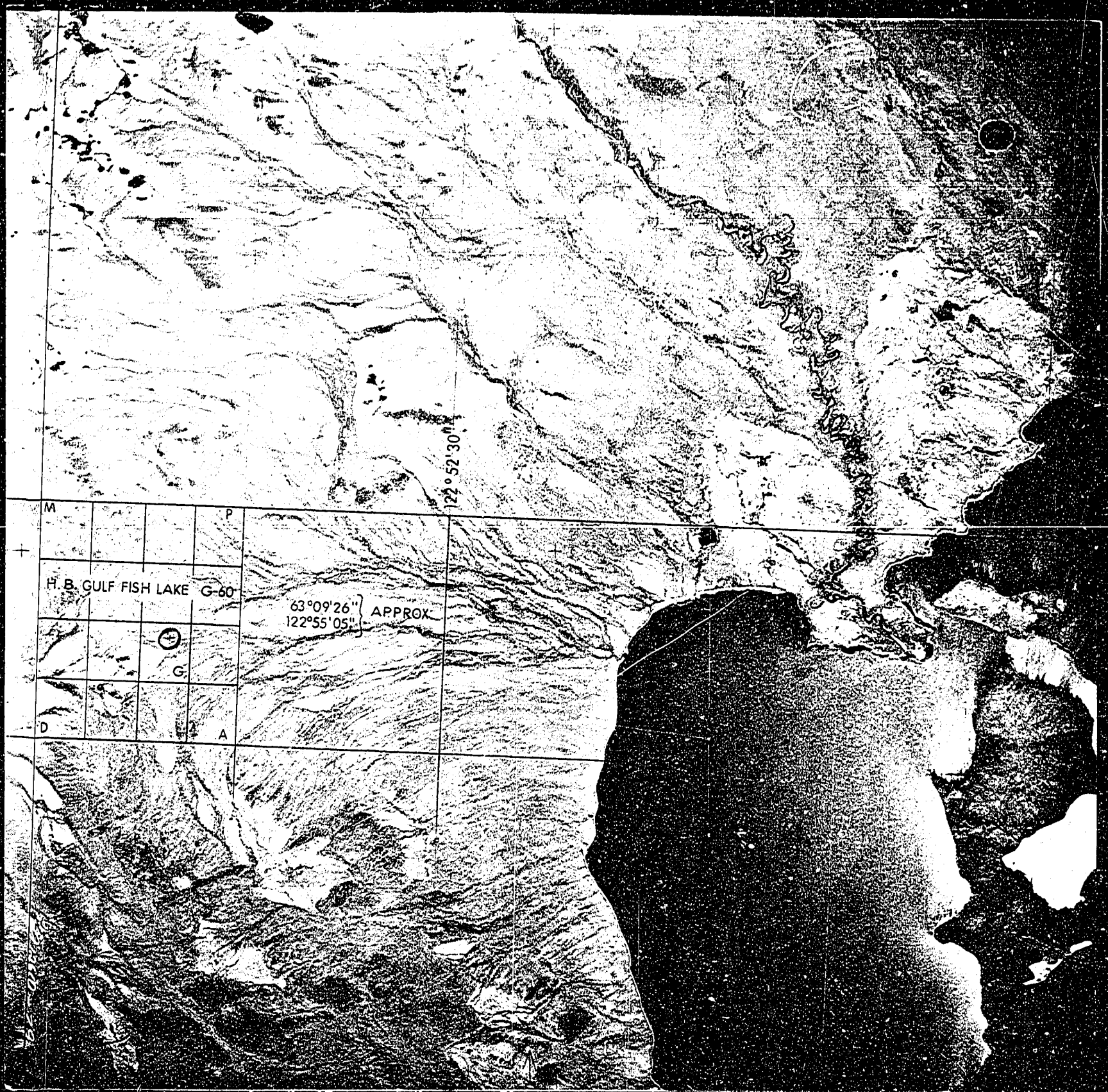
Scale: NTS | Brown: MR | Drawing No.

Date: | Ch'kd

1. 3" valve Series 900 Flanged
2. Control lines are to be Steel construction with chicksen swing connections
3. Space saver spool
4. 2" 300 psi screwed steel valve
5. Double Gate
6. 3000 psi pressure gauge
7. 2" Flanged valves
8. Adjustable Choke
9. Positive Choke
10. Union
11. 2" screwed valves
12. 3" x 2" Reducing Cross
13. 2" Tee




M
P
H.B. GULF FISH LAKE G-60
63°09'26"
122°55'05"
APPROX
122°52'30"
G
D
A


M
P
H. B. GULF FISH LAKE G-60
63°09'26"
122°55'05"
APPROX
G
D
A
122°52'30"

WELL HISTORY REPORT

HB Gulf Fish Lake G-60

G-60-63-10-122-45 D.A. 665

HUDSON'S BAY OIL AND GAS COMPANY LIMITED

WELL HISTORY REPORT
HB GULF FISH LAKE G-60

SIGNED: _____

DATE: MAY 16 1973

I N D E X

SUMMARY OF WELL DATA

Well Name:	HB Gulf Fish Lake G-60
Lessee:	Gulf Oil Ltd.
Operator:	Hudson's Bay Oil & Gas Co. Ltd.
Location:	G-60-63-10-122-45 Lat. 63°09'29.84"N. Long. 122°54' 59.80" W. U.W.L.R. # Lat. 63.15829°N Long.122.91661°W U.W.I. - 300G606 310122450
Co-Ordinates:	34.7' South and 421.5' West of NE corner of Unit G
Permit:	#4680
Drilling Contractor:	Commonwealth Drilling (Western)Ltd. Rotary Rig #12
Drilling Authorization:	No. 665, issued Feb. 15/73
Classification:	Exploratory
Elevations:	Ground: 1265 feet KB: 1277 feet
Spudded:	February 25/73
Completed Drilling:	April 2/73
TD:	5495 feet KB
Well Status:	Abandoned
Rig Released:	April 5/73
Hole Sizes:	17½" to 612 feet KB 8-3/4" to 5495 feet KB
Casing:	13-3/8" OD, 48#, K-55 set at 612 feet KB

GEOLOGICAL SUMMARY

Tops:

Marker	Log Depth	Sample Depth
Ft. Simpson		485
Hume	1650	1640
Manetoe	2142	2130
L. Chin. Evap.	2278	2260
Ernestina	3270	3170
Lotsberg	3338	3330
L. Chin. Carb.	3719	3480
Red Beds	3953	4020
Delorme	4208	not picked
Ronning	4305	not picked
Franklin Mtn.	4998	not picked

Sample Descriptions:

See following pages.

HB-Gulf Fish Lake G-60

Grd.: 1265
K.B.: 1277

SAMPLES LAGGED 2 MINUTES/100 FEET

TOP FORT SIMPSON SHALE 485'

610 – 630	SHALE: dark brown soft. Samples more than 95% gravel from uphole.
630 – 700	SHALE: dark brown, very soft, argillaceous, in part slightly sandy. Samples 690 and 700 50% gravel cavings.
700 – 720	NO SAMPLES
720 – 730	SHALE: green, soft, waxy.
730 – 770	SHALE: olive green, soft, waxy, laminated, sandy in part, slightly argillaceous in part, pyritic, DOLOSTONE: trace, stringers, cryptocrystalline light-dark brown, tight.
770 – 970	SHALE: olive grey green as above. DOLOSTONE: a trace, stringers, as above. SILTSTONE: a trace, olive green-brown, dolomitic, very rare stringers of limestone, buff crypto-crystalline, oolitic very rare white mica.
970 – 1000	SHALE: olive grey-green as above, with 45% SHALE: dark grey brown, laminated, argillaceous, rare stringers of siltstone and dolostone as above.
1000 - 1080	SHALE: dark brown, argillaceous, silty, laminated.
1080 - 1310	SHALE: dark grey brown, argillaceous, laminated, silty in part, pyritic rare mica, large chunks of pyrite, trace shale - black, silty, rare free quartz grains.
1310 - 1530	SHALE: grey, soft, waxy, pyritic, trace mica. 1400–1430 fractures indicated by calcite lining and aragonite crystals. Shales becoming darker with depth.

HB-Gulf Fish Lake G-60

1530 - 1610	SHALE: brown, calcareous, with white calcite flecks. LIMESTONE: 5%, brown, very fine granular, slightly argillaceous, tight. The amount of calcite flecks increases with depth.
1610 - 1620	SHALE: As above. LIMESTONE: 50%, yellow-brown, microcrystalline, bioclastic, pyritic.
1620 - 1630	SHALE: As above LIMESTONE: As above, only 25%.
1630 - 1640	LIMESTONE: As above 75%. SHALE: As above 25%.

TOP - HUME FORMATION 1640'

1640 - 1670	LIMESTONE: yellow brown-brown, microcrystalline, in part white calcite, in part bioclastic - corals, crinoids, tight.
1670 - 1700	LIMESTONE: yellow brown-brown, microcrystalline, in part bioclastic, in part lime mud, tight, - brachiopods, crinoids, corals.
1700 - 1710	LIMESTONE: As above. SHALE: 20%, green-brown, waxy.
1710 - 1760	LIMESTONE: As above. SHALE: 5-20% as above.
1760 - 1770	LIMESTONE: As above. SHALE: 50%, dark brown, silty.
1770 - 1800	LIMESTONE: brown, microcrystalline, slightly argillaceous, mainly lime mud. BIOCLASTIC LIMESTONE: 20% as above. SHALE: 5% as above.
1800 - 1840	LIMESTONE: buff, microcrystalline, pelletal, in part sucrosic, slightly bioclastic, tight. SHALE: 5%, as above.
1840 - 1900	SHALE: olive green, waxy. SHALE: brown, silty laminated. LIMESTONE: 20% as above.

HB-Gulf Fish Lake G-60

1900 - 1920	LIMESTONE: brown, microcrystalline, pelletal, in part bioclastic, argillaceous, tight - mainly lime mud with ostracods, brachiopods, pellets, calcite birdseyes.
1920 - 2000	LIMESTONE: As above. SHALE: 5% as above.
2000 - 2100	LIMESTONE: buff to brown, crypto to microcrystalline, slightly bioclastic (brachs) pyritic, tight.
2100 - 2130	LIMESTONE: As above. SHALE: As above.

TOP - MANETOE FORMATION 2130'

2130 - 2140	DOLOMITE: dark brown, microcrystalline, argillaceous, calcareous, tight. 10%: - white and brown, medium crystalline, very poor intercrystalline porositys trace of dead oil. 5%: - white, very coarse crystalline, tight.
2140 - 2150	DOLOMITE: brown, micro to very fine crystalline, sucrosic in part, tight. 5%: - dark brown, microcrystalline, argillaceous, tight. Trace: - medium crystalline dolomite as above.
2150 - 2160	DOLOMITE: brown, microcrystalline, tight. 5%: - very fine to fine crystalline, brown, very poor pinpoint to intercrystalline porosity, some dead oil stain.
2160 - 2170	DOLOMITE: brown, microcrystalline, sucrosic in part, tight. 2%: - brown, very fine to fine crystalline very poor intercrystalline porosity, a trace of pinpoint to vuggy porosity, and a trace of dead oil stain.
2170 - 2190	DOLOMITE: brown, micro to very fine crystalline, sucrosic in part, bioclastic in part; fair intercrystalline porosity and a trace pinpoint to vuggy porosity. 2%: - white, coarse crystalline, possibly lining large vugs.

2190 - 2200	DOLOMITE: as above with very poor intercrystalline porosity.
2200 - 2220	DOLOMITE: as in 2170-2190 with poor vuggy and fair intercrystalline porosity.
2220 - 2230	DOLOMITE: brown, micro to very fine crystalline, sucrosic in part, a trace of intercrystalline porosity. 10%: - buff, cryptocrystalline, tight.
2230 - 2250	DOLOMITE: buff, micro to very fine crystalline, slightly argillaceous, tight. 5%: - buff, cryptocrystalline, tight.
2250 - 2260	DOLOMITE: buff brown, micro to very fine crystalline, anhydritic, trace poor intercrystalline to vuggy porosity. 5%: - buff, cryptocrystalline, tight.

TOP - LOWER CHINCHAGA EVAPORITE 2260'

2260 - 2270	DOLOMITE: brown, micro to very fine crystalline, anhydritic, fair intercrystalline porosity.
2270 - 2300	ANHYDRITE: white to brown, microcrystalline. DOLOMITE: 10%, dark brown, microcrystalline, anhydritic, argillaceous, tight.
2300 - 2310	ANHYDRITE: As above. DOLOMITE: 30% as above.
2310 - 2320	DOLOMITE: buff brown, crypto to microcrystalline, trace pinpoint to vuggy porosity, trace dead oil stain. ANHYDRITE: 15% as above.
2320 - 2340	DOLOMITE: As above. ANHYDRITE: 40% as above.
2340 - 2360	ANHYDRITE: white to brown, microcrystalline, slightly dolomitic.
2360 - 2420	DOLOMITE: dark brown, crypto to microcrystalline, slightly anhydritick a trace of very poor pinpoint vuggy porosity. ANHYDRITE: 5% as above.

HB-Gulf Fish Lake G-60

2420 - 2430	DOLOMITE: brown, crypto to microcrystalline, slightly argillaceous, oolitic, slightly anhydritic, earthy in part, tight. ANHYDRITE: white to brown, cryptocrystalline.
2430 - 2450	ANHYDRITE: brown to white, crypto to microcrystalline. DOLOMITE: 30% as above.
2450 - 2460	DOLOMITE: As above. ANHYDRITE: 30% as above.
2460 - 2480	ANHYDRITE: As above. DOLOMITE: 25% as above.
2480 - 2490	DOLOMITE: brown, microcrystalline, anhydritic, pseudo-oolitic, trace of very poor pinpoint porosity, dolomitic, birdseyes present. ANHYDRITE: 15%, dark brown to cream, crypto to microcrystalline.
2490 - 2500	ANHYDRITE: as above. DOLOMITE: 20%, tight, as above.
2500 - 2510	ANHYDRITE: as above. DOLOMITE: 10%, as above. 10%: - very dark brown, microcrystalline, very anhydritic, tight.
2510 - 2520	ANHYDRITE: As above. DOLOMITE: 20% - dark brown, microcrystalline, very anhydritic, tight. 10% - brown, micro to very fine crystalline, tight.
2520 - 2530	ANHYDRITE: buff to cream, cryptocrystalline. DOLOMITE: 40%, brown, microcrystalline, pseudo-oolitic, anhydritic, tight.
2530 - 2540	ANHYDRITE: brown to cream, cryptocrystalline. 10% - dark brown, cryptocrystalline. DOLOMITE: 30%, dark brown, micro to very fine crystalline, anhydritic, tight.
2540 - 2570	DOLOMITE: brown to dark brown, crypto to microcrystalline, very anhydritic, tight. ANHYDRITE: 30%, brown to cream, crypto to microcrystalline.

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2570 - 2580	ANHYDRITE: white, cryptocrystalline, slightly dolomitic. DOLOMITE: 5% as above.
2580 - 2590	ANHYDRITE: cream to brown, cryptocrystalline. DOLOMITE: 30% as above.
2590 - 2600	DOLOMITE: As above. ANHYDRITE: 35% as above.
2600 - 2630	DOLOMITE: dark brown, cryptocrystalline, very anhydritic, pyritic. 5% - buff, cryptocrystalline. ANHYDRITE: 40% white to cream, cryptocrystalline.
2630 - 2640	ANHYDRITE: As above. DOLOMITE: 20% as above.
2640 - 2650	DOLOMITE: light brown to brown, microcrystalline pseudo-oolitic, slightly anhydritic. ANHYDRITE: 15% as above. SILTSTONE: 5% grey to brown, dolomitic.
2650 - 2670	ANHYDRITE: as above. DOLOMITE: a trace as above.
2670 - 2680	ANHYDRITE: brown to cream, cryptocrystalline. DOLOMITE: 40%, dark brown, cryptocrystalline, very anhydritic.
2680 - 2690	DOLOMITE: dark brown, crypto to microcrystalline, anhydritic, pyritic. ANHYDRITE: 10%, white to brown, cryptocrystalline.
2690 - 2710	ANHYDRITE: as above, mottled white to brown, cryptocrystalline. DOLOMITE: as above, moderate 35%, brown to dark grey crypto to microcrystalline, very slightly bitumen stained.
2710 - 2740	DOLOMITE: 50%, as above, with traces of pelletoidal dolomite, very fine to fine grained anhydrite and minor dolomite pellets in a cryto to microcrystalline dolomite matrix. ANHYDRITE: 50%, as above.
2740 - 2750	DOLOMITE: 50%, as above, anhydritic although not pelletoidal. ANHYDRITE: 50% as above.

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2750 - 2760	DOLOMITE: 50%, as above, very slightly stylolitic, minor anhydrite anhedral infill blebs and pellets. ANHYDRITE: 50% as above.
2760 - 2780	ANHYDRITE: 75%, as above. DOLOMITE: 25% as above, pelletoidal with anhydrite pellets.
2780 - 2790	DOLOMITE: 85% as above, not pelletoidal. ANHYDRITE: 15%, minor as above.
2790 - 2840	ANHYDRITE: 95%, as above, a trace of dolomitic anhydrite. DOLOMITE: 5%, traces as above.
2840 - 2860	DOLOMITE: 90%, light to medium brown, crypto-crystalline, a trace of bitumen staining, a minor amount of anhydritic pelletoidal dolomite. ANHYDRITE: 10%, minor as above.
2860 - 2870	DOLOMITE: 100%, brown, crypto to microcrystalline, very slight trace of stylolites and bitumen stains, a trace of anhedral to subhedral anhydritic stringers and infills.
2870 - 2880	DOLOMITE: 50%, light to medium brown, crypto-crystalline, a trace of bitumen stain. ANHYDRITE: 50%, as above.
2880 - 2900	ANHYDRITE: 95%, as above, in part slightly dolomitic. DOLOMITE: 5% traces, as above.
2900 - 2910	ANHYDRITE: 80% as above. DOLOMITE: 20%, minor, with anhydrite pelletoidal grains, infill and stringer crystals.
2910 - 2920	DOLOMITE: 40%, grey, cryptocrystalline, very slightly stylolitic. DOLOMITE: 40%, brown, crypto to microcrystalline, a trace of anhydrite stringers. ANHYDRITE: 20%, minor, as above.
2920 - 2940	ANHYDRITE: 70%, as above. DOLOMITE: 30%, moderate, both as above.

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2940 - 2950	DOLOMITE: 70% grey to brown, crypto to micro-crystalline, very slightly anhydritic. ANHYDRITE: 30%, moderate, as above, mottled white to brown, cryptocrystalline.
2950 - 2960	DOLOMITE: 80%, as above, very slightly pelletoidal with anhydrite grains. ANHYDRITE: 20%, minor, as above.
2960 - 3010	DOLOMITE: 70%, as above, not pelletoidal but slightly anhydritic (mottled). ANHYDRITE: 30-70, moderate, as above, interbedded with dolomite.
3010 - 3030	DOLOMITE: 60-80%, brown, crypto to micro crystalline, slightly pelletoidal, slightly anhydritic. ANHYDRITE: 20-40%, moderate, as above.
3030 - 3050	ANHYDRITE: 90%, as above and slightly dolomitic. DOLOMITE: 10%, minor, as above.
3050 - 3070	ANHYDRITE: 80%, mottled white to brown, crypto-crystalline, in part micro to very fine crystalline due to recrystallization. DOLOMITE: 20%, minor as above.
3070 - 3110	ANHYDRITE: 90%, as above, with a minor amount of clear, euhedral, very fine to coarse crystalline, gypsum. DOLOMITE: 10%, minor, as above.
3110 - 3160	ANHYDRITE: 90%, as above, and gypsiferous, very slightly dolomitic. DOLOMITE: 10%, minor, as above. SHALE: (cavings) as a result of lowering the drilling mud viscosity.

NOTE: SHALE IS TO BE CONSIDERED CAVINGS IN THE FOLLOWING SAMPLES, UNLESS DESCRIBED.

3160 - 3170	ANHYDRITE: 50%, as above with a trace of crypto-crystalline, anhedral dolomite stringers. DOLOMITE: 50%, brown to light grey, cryptocrystalline, very slightly pelletoidal.

HB-Gulf Fish Lake G-60

FORMATION TOP - ERNESTINA LAKE 3170'

3170 - 3180	DOLOMITE: 90% as above with a trace of anhydrite stringers and a very slightly mottled appearance. ANHYDRITE: 10%, minor as above.
3180 - 3220	DOLOMITE: 90% as above varying slightly to microcrystalline, very slightly stylolitic, increasingly pelletoidal, no mottled appearance. ANHYDRITE: 10%, minor, as above.
3220 - 3240	DOLOMITE: 60-80%, as above varied to brown, cryptocrystalline, very slightly anhydritic, very slightly pelletoidal. ANHYDRITE: 40-20%, moderate to minor, brown, crypto to microcrystalline due to recrystallizing.
3240 - 3260	DOLOMITE: 80% as above. ANHYDRITE: 20% minor, as above varied to very fine crystalline.
3260 - 3290	DOLOMITE: 95%, as above, moderately pelletoidal and anhydritic infill biebs and stringers. ANHYDRITE: 5%, traces, as above.
3290 - 3310	DOLOMITE: 98%, as above, varied to dark grey, very slightly calcareous, minor pelletoidal and anhydritic infilled. ANHYDRITE: 2%, traces, as above.
3310 - 3330	DOLOMITE: 98%, brown to grey, microcrystalline to very fine crystalline, very slightly stylolitic, very slightly calcareous with white calcite stringers, slightly pelletoidal, very slightly bitumen stained, a very slight trace of poor vuggy porosity. ANHYDRITE: 2%, traces as above.

FORMATION TOP - LOTSBERG 3330'

3330 - 3360	ANHYDRITE: 90-70$, brown, cryptocrystalline. DOLOMITE: 10-30%, minor to moderate, as above with no porosity.

HB-Gulf Fish Lake G-60

3360 - 3370	DOLOMITE: 70%, brown to dark grey, micro to very fine crystalline, mottled anhydrite with infills, stringers and pellets, very slightly bitumen stained. ANHYDRITE: 30%, moderate, as above.
3370 - 3390	ANHYDRITE: 80%, as above, very slightly dolomitic. DOLOMITE: 20%, minor as above.
3390 - 3420	DOLOMITE: 80%, as above, varied to crypto to microcrystalline, and with very slight traces of calcite stringers, very slightly stylolitic. ANHYDRITE: 20%, minor to moderate as above.
3420 - 3440	ANHYDRITE: 80%, mottled brown to grey cryptocrystalline, very slightly dolomitic. DOLOMITE: 20%, minor, as above.
3440 - 3450	DOLOMITE: 80%, brown to grey, crypto to microcrystalline, slightly mottled with anhydrite, very slight bitumen. ANHYDRITE: 20%, minor, as above.
3450 - 3480	ANHYDRITE: 40-60%, as above, very slightly dolomitic, interbedded with dolomite. DOLOMITE: 40-60%, as above.

FORMATION TOP - LOWER CHINCHAGA CARBONATE 3480'

3480 - 3500	DOLOMITE: 60%, brown, microcrystalline, pelletoidal with anhydrite pellets. DOLOMITE: 20%, minor, brown, cryptocrystalline, very slightly anhydritic. ANHYDRITE: 20%, as above.
3500 - 3560	DOLOMITE: 70%, brown, cryptocrystalline, and moderate pelletoidal dolomite as above. ANHYDRITE: 30%, moderate, as above.
3510 - 3550	DOLOMITE: 60%, brown to dark grey, crypto to microcrystalline, moderately pelletoidal, a trace of bitumen and stylolites, a trace of anhydrite infills. ANHYDRITE: 40%, moderate, as above.

HB-Gulf Fish Lake G-60

3550 - 3560	ANHYDRITE: 80%, light brown, cryptocrystalline, very slightly dolomitic. DOLOMITE: 20%, minor, light brown to grey, crypto to microcrystalline.
3560 - 3580	ANHYDRITE: 70%, as above, varied to white. DOLOMITE: 30%, moderate as above, with a minor amount varied to slightly pelletoidal and infilled, and very slightly stylolitic and bitumen stained.
3580 - 3620	DOLOMITE: 80% brown, cryptocrystalline, very slightly anhydritic, trace of anhydrite stringers, slightly pelletoidal, minor dolomite varied to a dark grey to light brown mottled appearance. ANHYDRITE: 20%, minor, as above.
3620 - 3630	DOLOMITE: 80%, as above with traces of microcrystalline and pelletoidal dolomite, very slightly stylolitic. ANHYDRITE: 20%, minor, as above.
3630 - 3660	DOLOMITE: 80%, as above, but predominantly grey to dark grey with a very slight trace of bitumen. ANHYDRITE: 20%, minor, as above.
3660 - 3700	DOLOMITE: 90%, predominantly light brown, minor grey, pelletoidal and traces of anhydrite infills, variably a very slight trace of bitumen and stylolites. ANHYDRITE: 10%, minor, as above.
3700 - 3710	DOLOMITE: 60%, as above. DOLOMITE: 30%, moderate, light grey cryptocrystalline. ANHYDRITE: 10%, as above.
3710 - 3760	DOLOMITE: 98%, light brown to light grey, crypto to microcrystalline, very slightly calcareous, very slight traces of pyrite and bitumen, slightly silty; micro to very fine grained mature clear to white floating quartz grains. ANHYDRITE: 2%, traces (cavings?) as above.

HB-Gulf Fish Lake G-60

3760 - 3800	DOLOMITE: brown to grey, crypto to micro-crystalline, traces of anhydrite infill crystals, clear anhedral to euhedral, stringers and pellets, very slight trace of pyrite and bitumen.
3800 - 3850	DOLOMITE: as above, moderately silty to sandy dolomite (predominantly silty); mature, micro to very fine grained quartz grains in a white to grey cryptocrystalline dolomite cement.
3850 - 3880	DOLOMITE: buff, cream to light grey, crypto-crystalline, very slight trace bitumen, a trace anhydrite (gypsum) infills and stringers as above, a trace of silty dolomite as above (cavings?).
3880 - 3890	DOLOMITE: predominantly as above, minor amount varied to micro to very fine crystalline, sucrosic, with a trace of poor intercrystalline to vuggy porosity and a very slight trace of pyrite.
3890 - 3900	DOLOMITE: buff to cream, cryptocrystalline, a very slight trace anhedral to subhedral anhydrite infills, trace of pyrite, a trace poor pinpoint to vuggy porosity.
3900 - 3920	DOLOMITE. as above, with a trace microcrystalline, very slight trace poor vuggy porosity.
3920 - 3970	DOLOMITE: 90%, as above, but no pyrite. DOLOMITE: 10%, minor, grey to brown cryptocrystalline, non-anhydritic.
3970 - 3990	DOLOMITE: cream to brown, cryptocrystalline, very slight anhydrite infills, very slightly pyritic.
3990 - 4010	DOLOMITE: 90%, as above, minor anhydrite and dolomite crystallization, subhedral. DOLOMITE: 10%, minor, olive green to grey, cryptocrystalline.
4010 - 4020	DOLOMITE: 75%, as above. DOLOMITE: 15%, light brown to olive green, with slight anhydrite crystallization. ANHYDRITE: 10%, light brown to white, crypto-crystalline, very slightly dolomitic.

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FORMATION TOP - RED BEDS 4020'

4020 - 4030	DOLOMITE: 80%, as above. MUDSTONE: 15%, minor, green to red, silty, slightly sandy, micro to very fine grain, floating quartz in cryptocrystalline dolomite. ANHYDRITE: 5%, traces as above (cavings?).
4030 - 4040	DOLOMITE: 80%, brown cryptocrystalline. MUDSTONE: 15%, as above, quartz grains mature. ANHYDRITE: 5%, cavings.
4040 - 4050	DOLOMITE: 65%, as above. MUDSTONE: 35%, as above, slightly arenaceous cryptocrystalline material mottled red to green.
4050 - 4070	MUDSTONE: 75%, as above, moderately dolomitic. DOLOMITE: 25%, moderate, as above.
4070 - 4080	DOLOMITE: 50%, as above. MUDSTONE: 50%, as above, a minor amount silty.
4080 - 4090	DOLOMITE: 80%, grey, moderately green, cryptocrystalline, slight amount anhydrite crystal blebs. MUDSTONE: 20%, minor, as above.
4090 - 4110	DOLOMITE: grey to green to brown, cryptocrystalline, minor microcrystalline, a trace of floating clear quartz silt grains, traces of red arenaceous material.
4110 - 4120	DOLOMITE: light grey to light brown, cryptocrystalline, very slight trace of red arenaceous material. SANDSTONE: 10%, white to grey, very fine to fine grain, clear mature quartz in a cryptocrystalline dolomite matrix.
4120 - 4140	DOLOMITE: 85-95%, as above. SANDSTONE: 15-5%, as above.
4140 - 4160	DOLOMITE: grey to brown, cryptocrystalline, very slightly stylolitic, very slight trace of dolomite recrystallization.

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4160 - 4170	DOLOMITE: as above with CHERT: very slight trace, orange to light brown, nodular, very slight trace pyrite.
4170 - 4210	DOLOMITE: light brown, cryptocrystalline, very slight trace of pyrite and dolomite calcite recrystallization and stringers.
4210 - 4220	DOLOMITE: brown, micro to very fine crystalline slight amount of bitumen. SANDSTONE: 10% clear, fine to medium grain, mature, moderate intergranular bitumen.
4220 - 4230	DOLOMITE: brown, crypto to very fine crystalline, very slight trace pyrite and bitumen.
4230 - 4240	DOLOMITE: brown, cryptocrystalline, very slightly calcareous, very slight trace bitumen, trace quartz recrystallization, nodular.
4240 - 4260	DOLOMITE: as above varying to very fine crystalline. SANDSTONE: very slight trace, white, fine grain.
4260 - 4270	DOLOMITE: brown to grey, very fine to fine crystalline, minor coarse crystalline quartz pieces and cryptocrystalline chert, traces of fair intercrystalline porosity, trace of bitumen.
4270 - 4280	DOLOMITE: as above with trace coarse euhedral crystalline dolomite and traces fair intercrystalline porosity.
4280 - 4290	DOLOMITE: as above with slight pinpoint to intercrystalline porosity.
4290 - 4300	DOLOMITE: as above with minor fair to good intercrystalline to vuggy porosity.
4300 - 4310	DOLOMITE: as above. DOLOMITE: 40%, brown, crypto to very fine, very slight trace bitumen, trace poor to fair intercrystalline to vuggy porosity.
4310 - 4320	DOLOMITE: 95%, brown, crypto to microcrystalline. DOLOMITE: 5%, as above with a very slight trace, poor to fair, intercrystalline to vuggy porosity (cavings?).

HB-Gulf Fish Lake G-60

4320 - 4360	DOLOMITE: medium brown, cryptocrystalline, very slight trace bitumen and pyrite.
4360 - 4370	DOLOMITE: brown, crypto to microcrystalline, trace subhedral quartz, very slight trace pyrite and bitumen. CHERT: trace, grey, nodular.
4370 - 4390	DOLOMITE: as above varied to micro to very fine crystalline, trace of dolomite and quartz recrystallization, very slight trace poor intercrystalline to vuggy porosity.
4390 - 4400	DOLOMITE: as above but non-porous.
4400 - 4410	DOLOMITE: as above, varied to very fine crystalline, minor euhedral, coarse crystalline dolomite, slight poor to fair intercrystalline to vuggy porosity.
4410 - 4420	DOLOMITE: brown, crypto to microcrystalline, trace very fine crystalline, trace of dolomite recrystallization, very slight trace of bitumen and poor to fair intercrystalline to vuggy porosity.
4420 - 4430	DOLOMITE: 70%, as above. CHERT: 30%, white, cryptocrystalline, very slight trace clear anhydrite and quartz blebs and stringers.
4430 - 4440	CHERT: 60%, as above MUDSTONE: 30%, white, silty to sandy with cryptocrystalline dolomite cement, very slight trace bitumen, very slight trace poor vuggy porosity. DOLOMITE: 10%, as above.
4440 - 4450	DOLOMITE: brown to grey, micro to very fine crystalline, traces euhedral, fine crystalline dolomite pieces, very slight trace bitumen, very slight trace poor intercrystalline to vuggy porosity. MUDSTONE: 25%, as above. CHERT: 25%, as above.

HB-Gulf Fish Lake G-60

4450 - 4460	DOLOMITE: as above with slight intercrystalline vuggy poor to good porosity. MUDSTONE, CHERT: trace as above.
4460 - 4470	DOLOMITE: as above traces poor to fair intercrystalline to vuggy porosity. MUDSTONE, CHERT: very slight trace as above.
4470 - 4480	DOLOMITE: as above varied to crypto to microcrystalline. CHERT: traces, white, silty, cryptocrystalline, earthy, slightly dolomitic.
4480 - 4490	DOLOMITE: brown to grey, cryptocrystalline, very slight trace stylolites and dolomite stringers.
4490 - 4500	DOLOMITE: brown to grey, crypto to microcrystalline, trace very fine recrystallization, very slight trace bitumen and poor vuggy porosity.
4500 - 4510	DOLOMITE: as above, predominantly microcrystalline, minor very fine.
4510 - 4550	DOLOMITE: as above, very slight trace poor intercrystalline to vuggy porosity.
4550 - 4590	DOLOMITE: dark brown to dark grey, cryptocrystalline, trace calcareous, traces calcite stringers and crystals, very slight trace pyrite, trace of bitumen and stylolites.
4590 - 4630	DOLOMITE: as above, predominantly brown, minor microcrystalline.
4630 - 4650	DOLOMITE: as above, with very slight trace of dolomitic oolite ghosts.
4650 - 4690	DOLOMITE: as above. SHALE: 30%, traces, black, crypto to micromicaceous.

HB-Gulf Fish Lake G-60

4690 - 4700	DOLOMITE: as above. CHERT: trace, buff, cryptocrystalline, very slight trace floating silt grains and fossil ghosts.
4700 - 4710	DOLOMITE: brown, crypto to microcrystalline, slight anhydrite crystallization, very slight trace pyrite, trace poor pinpoint to vuggy porosity. CHERT: trace, as above, earthy texture, dolomite pellets and spicules.
4710 - 4730	DOLOMITE: as above. CHERT: 15%, as above, very slight trace quartz, very slight trace bitumen.
4730 - 4750	DOLOMITE: brown to grey, crypto to microcrystalline, trace dolomite recrystallization, slightly pyritic, very slight trace poor intercrystalline porosity. CHERT: traces, as above, very slight trace fossils.
4750 - 4770	DOLOMITE: as above, very slight trace mature quartz grains.
4770 - 4780	DOLOMITE: as above, very slight trace coarse, euhedral gypsum.
4780 - 4820	DOLOMITE: as above, tight, very slight trace pyrite and bitumen.
4820 - 4830	DOLOMITE: as above, predominantly microcrystalline, very slightly calcareous.
4830 - 4840	DOLOMITE: as above. SANDSTONE: very slight trace, clear fine grain, mature quartz in white cryptocrystalline dolomite cement.
4840 - 4850	DOLOMITE: as above.
4850 - 4860	DOLOMITE: as above. CHERT: trace, grey, silty argillaceous.

HB-Gulf Fish Lake G-60

4860 - 4880	DOLOMITE: as above, only moderate, microcrystalline, mottle brown to black, very slight trace calcite stringers. CHERT: traces to slight amount, as above.
4880 - 4890	DOLOMITE: as above. MUDSTONE: 30%, light brown to grey, silty sandy with clear quartz grains, very slight amount bitumen and poor vuggy porosity, slightly dolomitic, trace spicule ghosts.
4890 - 4910	DOLOMITE: as above. MUDSTONE: as above. CHERT: slight, black, silty.
4910 - 4920	MUDSTONE: 65%, as above. DOLOMITE: 30%, as above. CHERT: 5%, as above.
4920 - 4960	DOLOMITE: 95%, as above, varying to black. CHERT: 4%, as above. MUDSTONE: 1%, as above.
4960 - 4990	DOLOMITE: 90-80%, as above. SHALE: 10-20%, minor black to green crypto to micromicaceous.
4990 - 5000	DOLOMITE: 80%, light grey to light brown, crypto to microcrystalline, very slight trace scattered fine grain clear mature quartz, very slight trace pyrite and bitumen. DOLOMITE AND SHALE: as above, minor.
5000 - 5020	DOLOMITE: as above but predominantly microcrystalline and light brown, very slight trace coarse crystalline, dolomite, no silt. DOLOMITE, SHALE: as above, minor.
5020 - 5040	DOLOMITE: dark grey to cream, crypto to microcrystalline, traces red arenaneous stain, very slight trace pyrite. SHALE: 15%, as above.

HB-Gulf Fish Lake G-60

5040 - 5070	DOLOMITE: as above, minor to moderate red stain. SHALE: 10% minor as above.
5070 - 5090	DOLOMITE: as above. MUDSTONE: 30%, moderate, cream to red, slight amount floating very fine to fine grain, clear mature quartz, dolomitic. SHALE: 10%, minor.
5090 - 5120	DOLOMITE: 60-45%, as above. MUDSTONE: 30-45%, as above. SHALE: 10%, as above. OOLITE: very slight trace siliceous.
5120 - 5160	DOLOMITE: as above. MUDSTONE: 30-8%, as above. SHALE: minor as above.
5160 - 5170	POOR SAMPLE: FOLLOWING TRIP.
5170 - 5180	DOLOMITE: 70%, brown, crypto to microcrystalline, slightly calcareous. DOLOMITE: 20%, grey, cryptocrystalline. SHALE: 10%, minor as above.
5180 - 5210	DOLOMITE: brown, as above, with a trace white, coarse crystalline, calcite, trace bitumen and pyrite, very slight trace mature fine grain quartz.
5210 - 5290	DOLOMITE: as above, dark grey to dark brown, mottled, very slight trace calcite stringers and crystals.
5290 - 5320	DOLOMITE: as above very slightly oolitic.
5320 - 5340	DOLOMITE: 50%, as above, not oolitic. MUDSTONE: 50%, light brown, cream, pink, cryptocrystalline, minor scattered mature silt and quartz, dolomitic.
5340 - 5350	MUDSTONE: 90%, as above. DOLOMITE: 10%, minor as above.

HB-Gulf Fish Lake G-60

5350 - 5410	DOLOMITE: as above, a trace of mature quartz silt and sand grains.
5410 - 5490	DOLOMITE: as above, with a very slight trace of gypsum crystals and pyrite.

ENGINEERING SUMMARY

Drill Stem Tests:

DST #:	one	two
Date:	March 13/73	Apr. 3/73
Formation:	Manetoe	Ronning
Interval	2150-2410	4281-4478
IF Time:	6	5
ISI Time:	30	60
FF Time:	30	60
FSI Time	60	60
IHP:	1042	1958
ISIP:	833	1849
IFP:	49	60
FFP:	49	192
FSIP:	791	1788
FHP:	1042	1946

Remarks: DST #1: Rec. 50 feet drilling mud
DST #2: Rec. 360 feet salt water cut drilling mud

Casing Record:

Surface Casing: 13-3/8" OD, 48#, K-55 set at 612 feet KB.
Cemented w/1020 sacks cement.

Bit Record:

Bit #	Serial #	Type	Size	Hours	Interval	Footage
1A	Px943	OSC3	17-1/2	14-1/2	0-230	230
2A	PX971	OSC3	17-1/2	9-1/2	230-430	200
3A	NX596	OSC3	17-1/2	14-1/4	430-612	182
1	50786	XIG	8-3/4	20	612-1430	818
2	49199	XDV	8-3/4	27-1/3	1430-1920	490
3	48755	WD7	8-3/4	19-3/4	1920-2137	217
4	43038	X55R	8-3/4	27	2137-2410	273
5	45146	X55R	8-3/4	86	2410-3165	755
6	42716	X55R	8-3/4	79	3165-3746	581
7	48760	WD7	8-3/4	7-3/4	3746-3775	29
8	52858	X55R	8-3/4	82	3775-4346	571
9	MS715	4JS	8-3/4	45	4346-4681	335
10	50851	X55R	8-3/4	56-1/2	4681-5172	491
11	49083	X55R	8-3/4	40-3/4	5172-5495	323

Mud Report:

Type	Interval	Ave.Wt.	Ave.Visc	WL	PH	FC
gel—water	0-612	10.0	100			
gel—water	612-TD	9.0	50	10	11	2/32

Volume of additives:

gel:	131,000 lb.
barite:	49,500 lb.
Caustic:	4,225 lb.
Soda Ash:	3,300 lb.
Lime:	205 lb.
Salt gel:	8,400 lb.
CMC:	950 lb.
DV68:	37 gal.
Sawdust:	230 sacks
Fibre:	15 sacks
Seltex:	4,950 lb.

Deviation Record:

Depth	Degrees	Depth	Degrees
110	1/2	1580	1
230	3/4	2019	1
358	3/4	2600	1
459	1-1/8	3100	2-1/16
554	1-1/2	3600	1-1/2
580	2	4100	2
643	1-3/4	4600	1/2
830	1	5172	1
1050	1	5495	1-1/2
1273	1		

Abandonment Plugs:

Plug No.	Interval	Cement	Felt at
1	5495-5395	50 sacks	
2	2550-2450	50 sacks	2435'
3	660- 550	100 sacks	540'

LOGS

Date	Run No.	Interval	Type	Scale
Apr - 3/73	1	5487-610	GRSC	2" & 5"
Apr - 3/73	1	5482-616	DILL	2" & 5"
Apr - 3/73	1	5489-615	FDC	2" & 5"
Apr - 3/73	1	5482-615	SNP	2" & 5"

Analysis:

~~none~~ 7021-3591 - Mud Filtrate Analysis 2150-2460 D.S.T. #1
7021-3612 - Mud " " 4281-4478 D.S.T. #2

COMPLETION SUMMARY

Abandonment Plugs:

Plug #	Interval	Formation	Cement	Felt At
1	5495-5395	Red Beds	50 sacks	
2	2550-2450	L.Chin.Evap.	50 sacks	2435'
3	660- 550	casing shoe	100 sacks	540'
4	at surface		10 sacks	

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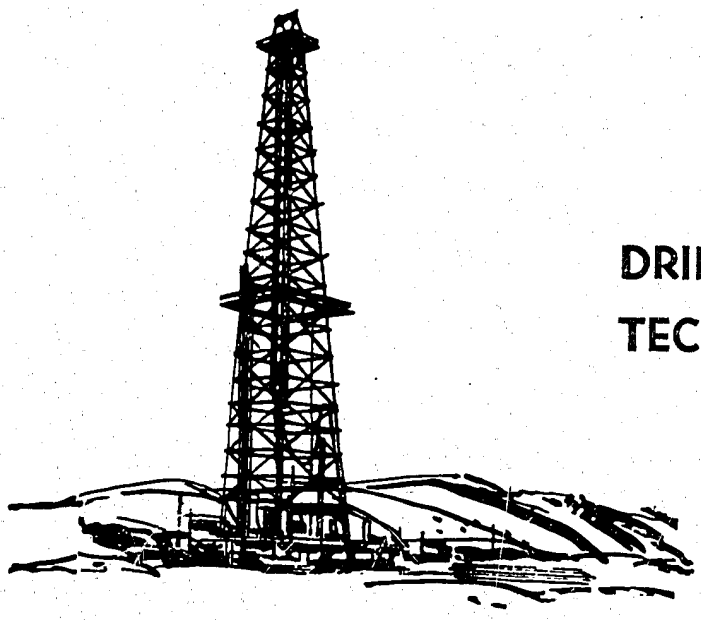
BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools

TIGHT HOLE



DRILL STEM TEST
TECHNICAL SERVICE REPORT

NOMENCLATURE (Definition of Symbols)

Q	=	average production rate during test, bbls./day
Q_g	=	measured gas production rate during test, MCF/day
k	=	permeability, md
h	=	net pay thickness, ft. (when unknown, test interval is chosen)
μ	=	fluid viscosity, centipoise
Z	=	compressibility factor
T_f	=	reservoir temperature, ° Rankine
m	=	slope of final SIP buildup plot, psig/cycle (psig²/cycle for gas)
b	=	approximate radius of investigation, feet
r_w	=	wellbore radius, feet
t_o	=	total flowing time, minutes
P_o	=	Extrapolated maximum reservoir pressure, psig
P_f	=	final flowing pressure, psig
P.I.	=	productivity index, bbls./day/psi
$P.I._t$	=	theoretical productivity index with damage removed, bbl./day/psi
D.R.	=	damage ratio
E.D.R.	=	estimated damage ratio
AOF	=	absolute open flow potential, MCF/D
AOF_t	=	theoretical absolute open flow if damage were removed
$\bar{Z}$	=	subsea depth
W	=	water gradient based on salinity
H_w	=	potentiometric surface

INTERPRETATION CALCULATIONS (OIL/WATER)

AVERAGE PRODUCTION RATE DURING TEST

$Q = \frac{1440\ (\text{drill collar capacity} \times \text{recovery} + \text{drill pipe capac.} \times \text{recovery})}{\text{initial flow time} + \text{final flow time}}$

$= 1440 \frac{[(\quad)(\quad) + (\quad)(\quad)]}{(\quad) + (\quad)}$

$= 1440\ (.0145 \text{ or } .0073)\ \frac{(\quad)}{(\quad)}$ Mud Expansion = —..... ft. (Drill Collar Correction Is Considered)

= ..... bbls./day

FLUID PROPERTIES — Estimated Bottom Hole Temperature °

API Gravity @ 60° F. ..... ° Specific Gravity @ 60° F. ..... Est. Viscosity ..... cp

TRANSMISSIBILITY

$\frac{kh}{\mu} = \frac{162.6Q}{m} = \frac{162.6\ (\quad)}{(\quad)} =$ ..... md.-ft/cp

IN SITU CAPACITY

$kh = (\quad)(\quad) =$ ..... md.-ft.

AVERAGE EFFECTIVE PERMEABILITY — Estimated Pay Thickness Ft. Actual Pay Thickness Ft.

$k = \frac{(\quad)}{(\quad)} =$ ..... md.

PRODUCTIVITY INDEX

$PI = \frac{Q}{P_o - P_f} = \frac{(\quad)}{(\quad) - (\quad)} =$ ..... bbl./day-psi

DAMAGE RATIO

$D.R. = \frac{0.183\ [P_o - P_f]}{m} = \frac{0.183\ [(\quad) - (\quad)]}{(\quad)} =$ .....

PRODUCTIVITY INDEX WITH DAMAGE REMOVED

$P.I._t = P.I. \times D.R. = (\quad)\ (\quad) =$ ..... bbl./day-psi

APPROXIMATE RADIUS OF INVESTIGATION

$b = \sqrt{kt_o} = \sqrt{(\quad)(\quad)} =$ ..... ft.

Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P.}{I.S.I.P.} \times 100 = \frac{(\quad) - (\quad)}{(\quad)} \times 100 =$ ..... % (4% to 5% is considered serious or substantial)

Potentiometric Surface = $H_w = \bar{Z} + \frac{P_o}{W}$ $h_w =$ ..... + $\frac{(\quad)}{(\quad)}$ = + ... ± ..... ft.

INTERPRETATION CALCULATIONS (GAS)

$R(T_f) =$ .....°

ESTIMATED GAS PROPERTIES — Estimated Bottom Hole Temperature °

Gravity @ 60° F ..... Viscosity (Res.) ..... cp. Compressibility Factor (Z) .....

TRANSMISSIBILITY — Measured D.S.T. Gas Rate = ... mcf/d.

$\frac{kh}{\mu} = \frac{1637\ Q_g Z T_f}{m} \quad \frac{1637\ (\quad)(\quad)(\quad)}{(\quad)} =$ ..... $\frac{\text{md.-ft.}}{\text{cp.}}$

IN SITU CAPACITY

$kh = (\quad)(\quad) =$ ..... md.-ft.

AVERAGE EFFECTIVE PERMEABILITY — Estimated Pay Thickness Ft. Actual Pay Thickness Ft.

$k = \frac{(\quad)}{(\quad)} =$ ..... md.

APPROXIMATE RADIUS OF INVESTIGATION

$b = 0.02\ \sqrt{kt_o P_o} = 0.02\ \sqrt{(\quad)(\quad)(\quad)} =$ ..... ft.

ACTUAL CAPACITY

$kh = \frac{3270\ Q_g \mu Z T_f \log(0.4727 \frac{b}{r_w})}{P_o^2 - P_f^2} = \frac{3270\ (\quad)(\quad)(\quad)(\quad)(\quad)}{(\quad) - (\quad)} =$ ..... md.-ft.

DAMAGE RATIO — E.D.R. = $\frac{(P_o^2 - P_f^2)}{m\ (\log t_o + 2.65)}$

$D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \frac{(\quad)}{(\quad)} =$ .....

E.D.R. = ...

ESTIMATED RANGE OF AOF POTENTIAL

$\text{Max. AOF} = \frac{Q_g P_o^2}{P_o^2 - P_f^2} = \frac{(\quad)(\quad)}{[(\quad) - (\quad)]} = \frac{(\quad)}{(\quad)} =$ ..... MCF/D

$\text{Min. AOF} = \frac{Q_g P_o}{\sqrt{P_o^2 - P_f^2}} = \frac{(\quad)(\quad)}{\sqrt{[(\quad) - (\quad)]}} = \frac{(\quad)}{(\quad)} =$ ..... MCF/D

ESTIMATED RANGE OF AOF POTENTIAL, DAMAGE REMOVED

$\text{Max. AOF}_t = (\text{Max. AOF})(D.R.) = (\quad)(\quad) =$ ..... MCF/D

$\text{Min. AOF}_t = (\text{Min. AOF})(D.R.) = (\quad)(\quad) =$ ..... MCF/D

Drawdown Factor = $\frac{ISIP - FSIP}{ISIP} \times 100 = \frac{(\quad) - (\quad)}{(\quad)} \times 100 =$ ..... % (4% to 5% is considered serious or substantial)

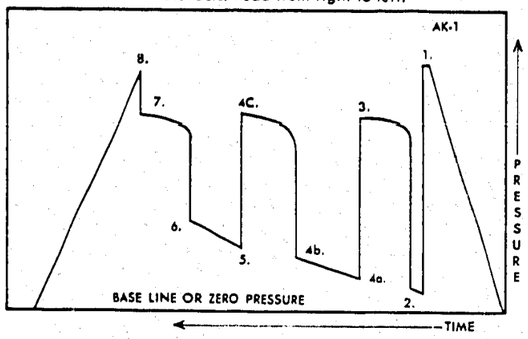
Potentiometric Surface = $H_w = \bar{Z} + \frac{P_o}{W}$ $H_w =$ ..... + $\frac{(\quad)}{(\quad)}$ = + ... ± ..... ft.

LYNES

GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

AK-1 recorders. Read from right to left.

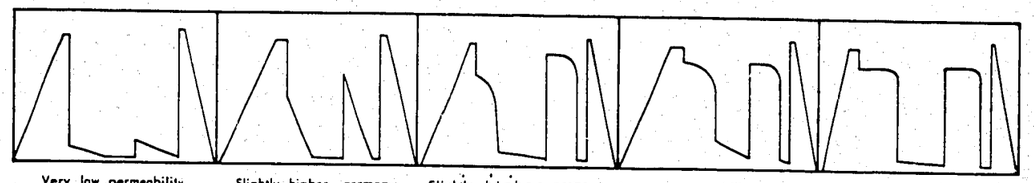


1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
4a. 2nd INITIAL FLOW
4b. 2nd FINAL FLOW
4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

K-K-3 recorders. Read from left to right.

Typical charts for visual field analysis ranging from very low to high permeability.



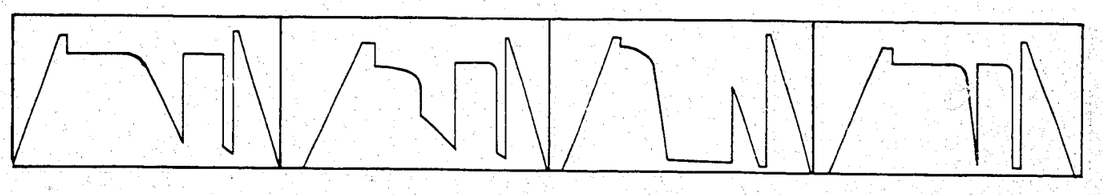
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again usually mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.



Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.

LYNES UNITED SERVICES LTD.

WELL NAME - HB GULF FISH LAKE

LOCATION - G-60

DST NUMBER - 1

INTERVAL TESTED - 2150 TO 2410

RECORDER NO. - 906

DEPTH - 2170

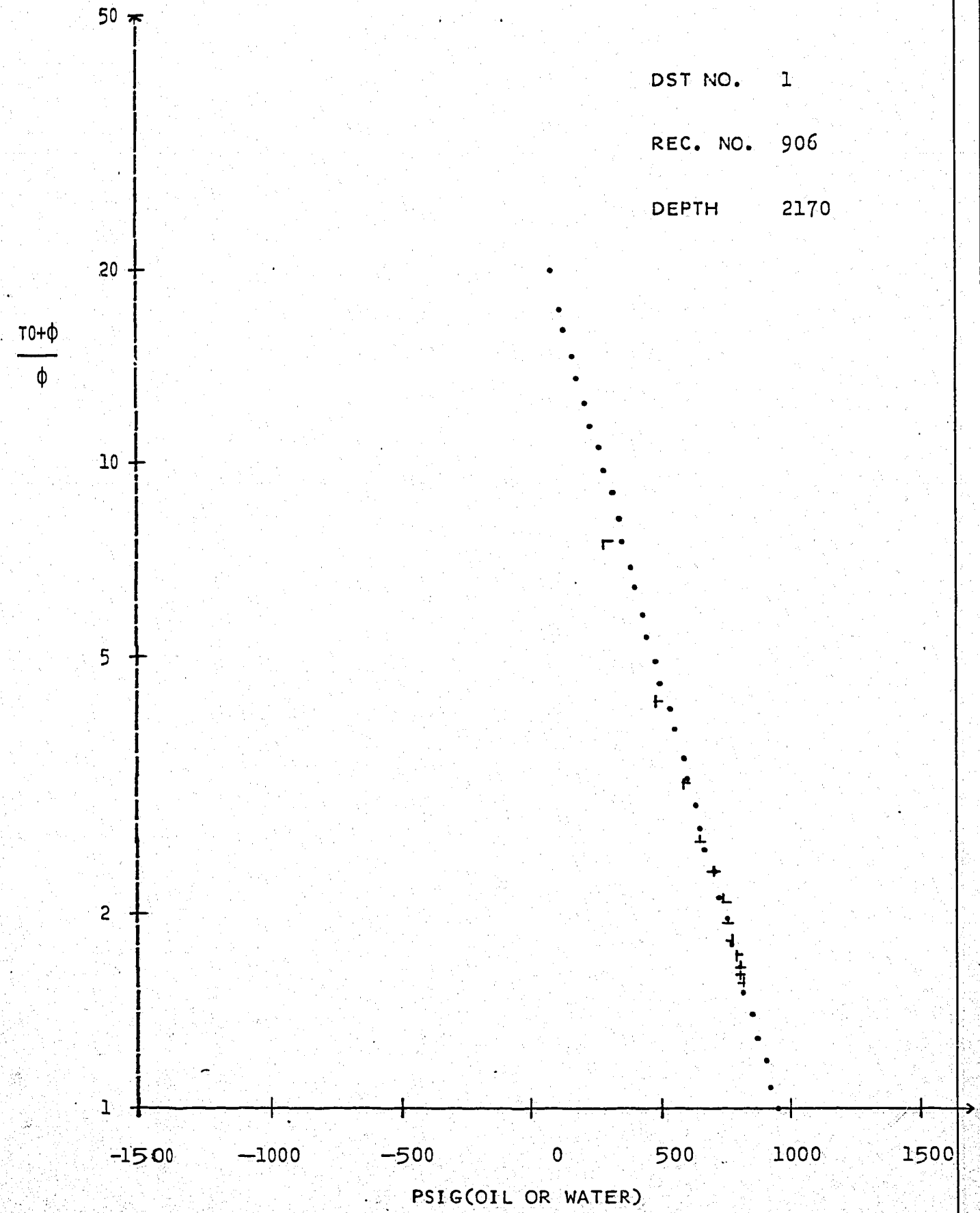
FINAL SHUT IN PRESSURE

TIME(MIN) Φ	T + Φ / Φ	PSIG
0	0.0000	42
5	7.6000	286
10	4.3000	488
15	3.2000	587
20	2.6500	650
25	2.3200	693
30	2.1000	725
35	1.9429	750
40	1.8250	768
45	1.7333	786
50	1.6600	798
55	1.6000	807
60	1.5500	816

EQU. FITTED LINE IS LOG((TO+Φ)/Φ)= -0.00150 PSIG + 1.41447

EXTRAPOLATION OF FINAL SHUT-IN = 942.87 M= 666.59

LYNES UNITED SERVICES LTD.



PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

TEST DATA — Test No. 1 — Lynes Test

Formation	Manitoe	T.D. 2410 Ft.	
Interval Tested	2150 Ft. to 2410 Ft.		
Interval Tested	260 Ft.	Net Pay Tested	Ft.
Type of Test	Bottom Hole Conv.		
Cushion		Amount	Ft.
Started in Hole at	1215 Hrs.	Tool Open at	1:37 Hrs.
Pre-Flow	3 Mins.	Initial Shut-in	30 Mins.
2nd Flow	Mins.	Second Shut-in	Mins.
Final Flow	30 Mins.	Final Shut-in	60 Mins.

Remarks:

Blow: Weak initial puff. Dead in 1 min. on preflow. Weak air blow. Dead in 5 minutes.

GENERAL INFORMATION

Company	Hudsons Bay Oil & Gas Co. Ltd.		
Address	320 - 7 Avenue S.W.		
Well Name	HB Gulf Fish Lake		
Well Number	G-60		
K.B. Elevation		Sub-Sea Elevation	
Area	Ft. Simpson	Province	Alberta
Company Rep.	B. Walker		
Tester	W. Goodwin		
Contractor	Commonwealth	Rig No.	12
Ticket No.	7433	Date	March 13/73

Service Reports To:

5 - above address

GAS BLOW MEASUREMENTS

Measured with

Time	Surface Choke	Reading Inches	Cubic Feet/Day

MUD AND HOLE DATA

Mud Type	Gel Chem		
Weight 9	Viscosity 60	Water Loss	10.2
Filter Cake	2/32"	Bottom Hole Temperature	
Drill Pipe Size	4 " FH	Weight	
Drill Collars	6 1/4"	I.D. 2 1/2	Feet Run 180
Main Hole or Casing Size	8 3/4"		
Rathole or Liner Size		No. of Feet	
Bottom Hole Choke Size	1/2"		
Surface Choke Size			
Packer Rubber Size	7 3/4"		

REMARKS

Recorder 902 stepping during shut-in periods.

Shut-in pressures suggest very low permeability within the interval tested.

RECOVERY

TOTAL FLUID RECOVERED 50 Ft. Consisting of:

50 Ft. of drilling fluid

Ft. of

Ft. of

Ft. of

Test was/was not Reverse Circulated

Oil Recovery A.P.I. Water Specific Gravity

Salinity

PRESSURE READINGS

	Inside ___ Outside X	Inside X Outside ___	Inside ___ Outside ___	Inside ___ Outside ___
Recorder No.	906	902		
Capacity	3050	3300		
Depth	2165	2170		

NUMBER KEY:				
1 - INITIAL HYDROSTATIC	1026	1031		
2 - PRE-FLOW	40	40		
3 - INITIAL SHUT-IN	825	809		
4a - 2nd INITIAL FLOW				
4b - 2nd FINAL FLOW				
4c - 2nd SHUT-IN				
5 - 3rd INITIAL FLOW	42	46		
6 - FINAL FLOW	442	46		
7 - FINAL SHUT-IN	816	808		
8 - FINAL HYDROSTATIC	1020	1029		

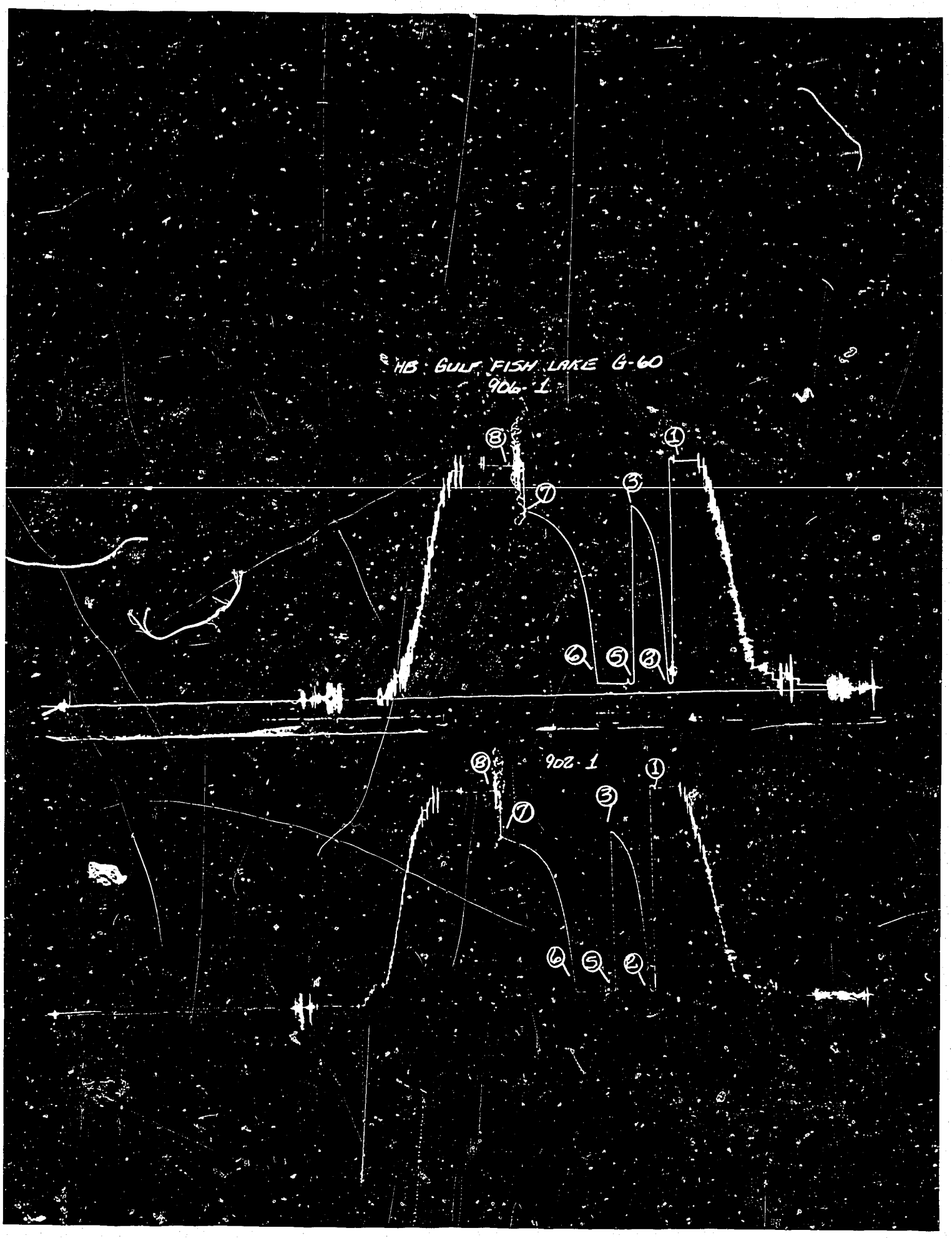
Company: Hudsons Bay Oil & Gas Co.

Well Name and Description: HB Gulf Fish Lake G-60

Test No.: #1

Date of Test: March 13/73


HB GULF FISH LAKE G-60
906-1
8
7
3
1
6
5
3
902 1
8
7
3
1
6
5
2


HB GULF FISH LAKE G-60
906-1
8
7
5
1
6
5
3
8
906-1
1
3
7
6
5
2

MUD FILTRATE ANALYSIS

FOR

HUDSON'S BAY OIL AND GAS COMPANY LIMITED

HB GULF FISH LAKE G-60
FISH LAKE

CORE LABORATORIES - CANADA LTD.

Petroleum Reservoir Engineering

CALGARY - EDMONTON - REGINA

CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

Company: Hudson's Bay Oil and Gas Company Limited

Page: 1 of 1

Well: HB Gulf Fish Lake G-60

File: 7021-3612

Field: Fish Lake

Analyst: L. Kinsella

Location: 63° 09'26.00 N.L. 122° 55'05.00 W.L.

Elevation: K.B. 1265' Grd. 1200'

Formation:

Depth: 4281' - 4478'

Sampled from: DST #2 (Bottom)

by:

Sampling pressure: psig

Sampling temp.: °F

Ambient temp.: °F

Date sampled: April 4/73

Date received: April 17/73

Date analysed: April 18/73

Container pressure:

Mud:

Water cushion:

Recovery or flowrate:

Mud Filtrate Analysis

Resistivity	0.770 Ohm-meters @ 72°F
Chloride	2,883 mg/liter

MUD FILTRATE ANALYSIS

FOR

HUDSON'S BAY OIL AND GAS COMPANY LIMITED

HB GULF FISH LAKE G-60
FISH LAKE

CORE LABORATORIES - CANADA LTD.
Petroleum Reservoir Engineering
CALGARY - EDMONTON - REGINA

CORE LABORATORIES — CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

Company: Hudson's Bay Oil and Gas Company Limited — Page: 1 of 1

Well: HB Gulf Fish Lake G-60 — File: 7021-3591

Field: Fish Lake — Analyst: L. Kinsella

Location: 63° 09' 26.00 N.L. 122° 55' 05.00 W.L. — Elevation: K.B. ____ Grd. ____

Formation: ____ Depth: 2150' - 2460'

Sampled from: DST #1 (Top) by: ____

Sampling pressure: ____ psig Sampling temp. ____ °F Ambient temp. ____ °F

Date sampled: March 13/73 Date received: April 11/73 Date analysed: April 24/73

Container pressure: ____ Mud: ____ Water cushion: ____

Recovery or flowrate: ____

Mud Filtrate Analysis

Resistivity = 6.54 Ohm-meters @ 71°F

Chloride = 78 mg/liter

HB GULF FISH LAKE G-60

63-10-122.45

D.A. 665

52 - 8BAX4
REV. 2/71A

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE April 5/73.

WELL NAME Hudsons Bay Fuel Fish Lake 8-60.
CONTRACTOR Commonwealth
TYPE RIG U311-D
RIG NO. 12
TOOL PUSHER

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: [illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES: Felt plug # 3 at 540 feet.

Cut casing off 3' below ground level. Cemented with 40 sks of cement. Welded on a steel cap and well name plate.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. / INTERVAL / FORMATION
VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES: IHP / FHP / IFP / FFP / ISIP / FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	2:00	Lay Down Pipe
2:00	5:00	Tear Out BOP's
5:00	5:30	Felt Plug No 3
5:30	6:00	Lay Down Pipe
6:00	8:00	Tear Out Rig

DRILLER [signature] NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
8	4	Tear out

Rig released 12 noon

DRILLER NO. HELPERS

DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE April 4/73

WELL NAME	HUDSONS BAY GULF FISH LAKE B-60	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG	UBH D
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: WEW

12 P.M. TO 8 A.M.

DEPTH — START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
1200	330	HEAD UP TO TEST + TESTING
330	530	UNSEAT PACKER P.O.H.
530	630	LAY DOWN TEST TOOLS
630	700	LAY DOWN 6" DC'S
700	800	RUN IN OPEN END

DRILLER David Todd NO. HELPERS 4

8 A.M. TO 4 P.M.

START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

Run plug #1 - 5495' - 5395'
50 sacks. Displace w/ 53 bbls.

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

Run plug #2 - 2550 - 2450 - 50 sacks.
28 CaCl2 displace w/ 24 bbls.
In place. 12 noon.

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
800	900	FINISHED IN
900	945	CIRCULATE TO RUN PLUGS
945	1030	RUN PLUG NO 1
1030	1115	PULL 45 STDS
1115	1200	RUN PLUG NO 2
1200	1230	P.O.H 10 STDS
1230	100	CIRCULATED
100	400	LAY DOWN 45 STDS.

DRILLER NO. HELPERS

4 P.M. TO 12 P.M.

START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

Felt plug #2 at 2435

ADDITIVES Run plug #3: 660 - 560:
100 sacks 28 CaCl2 in place 930 PM

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
900	930	TEAR OUT BOP'S
930	800	FELT PLUG NO 2
800	900	POLL OUT TO RUN PLUG NO 3
900	930	RAN PLUG NO 3 PULL OUT
930	1200	LAY DOWN PIPE

DRILLER NO. HELPERS

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE April 3 75

WELL NAME	Hudsons Bay Cole Fish Lake 660	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U34D
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START 5495 / PROGRESS / END	START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6½ X 14			

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. / INTERVAL / FORMATION

VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP / FHP / IFP / FFP / ISIP / FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
1600	800	LOGGING
		~~Bore Hole Compensated Sonic GR 5478-610~~
		~~Dual Induction Laterolog 5482-616~~
		~~Formation Density 5482-615~~
		~~SNP. 5480-615~~

DRILLER Vernon Todd NO. HELPERS K

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig Serv
8:15		Logging

DRILLER Emil Horricks NO. HELPERS

FROM	TO	DESCRIPTION OF WORK
400	700	W.O.O.
700	900	MAKE UP DST. No 2
900	1200	PICK UP JARS R.I.H. DST #2
1200	430	HEAD UP TO TEST, TESTING
430	800	UNSEAT PACKER, POH

DRILLER Vernon Todd NO. HELPERS

52 - 8BAX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE April 2/73

WELL NAME	Hudsons Bay Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U-31D
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 5428 PROGRESS 58 END 5486	START 5486 PROGRESS 9 END 5495	START PROGRESS END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
11	49083	X55R	8 3/4	5172	5486	314	38 3/4

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
11	49083	X55R	8 3/4	5486	5495	323	40 3/4

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	900	35/45	30/40
8 A.M. TO 4 P.M.	6 1/2 X 14	900	35	30
4 P.M. TO 12 P.M.				

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	77	1	22	12	
8 A.M. TO 4 P.M.	4"	77	7	22	21	
4 P.M. TO 12 P.M.						

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	28			
8 A.M. TO 4 P.M.		8.4	35	10.	11	2/32.
4 P.M. TO 12 P.M.						

12 P.M. TO 8 A.M.: 3200 — 3 gals.
ADDITIVES: GEL 150 DV-6B; CAUSTIC 800; SODA ASH

8 A.M. TO 4 P.M.: ADDITIVES: 4800 GELL; 200 SODA ASH; 250 CAUSTIC; 4 GAL DV-68; 100 HI-VIS CMC

4 P.M. TO 12 P.M.: ADDITIVES: hay-down stabilizer.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	1 1/2 DEG. AT 5495 FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

	VALVE OPEN (MINS.)	INITIAL SHUT-IN (MINS.)	FINAL SHUT-IN (MINS.)
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

	GAS TO SURFACE	MIN. @	MCF/D MAX.
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

	OIL TO SURFACE	MIN. @	BBL/D MAX.
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Rig service BOP's
12:15	8:00	Drill

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig serv BOP
8:15	10:15	Drill
10:15	12:15	Circ to condition hole & mud
12:15	12:30	Survey
12:30	4:00	Hoist to log slm out. Board 4840.31 SLM 4839.78 153.

FROM	TO	DESCRIPTION OF WORK
4:00	4:30	Lay down 7" DC.
4:30	4:45	Rig up to log
4:45	12:00	logging

DRILLER	David Field	NO. HELPERS 4
DRILLER	Emil Horacka	NO. HELPERS
DRILLER		NO. HELPERS

52 - 8BAX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE April 1/73.

WELL NAME	Hudsons Bay Exp Fish Lake 6-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U-3HD
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 5234 PROGRESS 61 END 5295	START 5295 PROGRESS 65 END 5360	START 5360 PROGRESS 68 END 5428

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
11	49083	83/4	X55R	5172	5295	123	15 1/2
11	49083	~~X55R~~	8 3/4	5292	5360	68	23 1/4
11	49083	X55R	8 3/4	5172	5428	256	31

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	900	34	40
8 A.M. TO 4 P.M.	6 1/2 X 14	900	33	40
4 P.M. TO 12 P.M.	6 1/2 X 14	900	34	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	94	—	22	11	
8 A.M. TO 4 P.M.	4"	75	1	22	12	
4 P.M. TO 12 P.M.	4"	76	1	22	17	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	28			
8 A.M. TO 4 P.M.	WATER	8.4	28			
		8.4	28			
4 P.M. TO 12 P.M.	WATER	8.4	28			

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Rig Service & BOP's
12:15	8:00	Drill
8:00	8:15	Rig Serv BOP
8:15	4:00	Drill
4:00	4:15	Rig Serv BOP
4:15	12:00	Drill

DRILLER David Gudd NO. HELPERS 4
DRILLER Emil Moravcsik NO. HELPERS 4
DRILLER NO. HELPERS 4

52 - 8DAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Mar 31/73.

WELL NAME	HUDSONS BAY BULT FISH LAKE G60	LDG. FLG. TO KB	
CONTRACTOR	COMMON WEALTH	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								W.B.

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 5110 PROGRESS 61 END 5171	START 5171 PROGRESS 1 END 5172	START 5172 PROGRESS 62 END 5234

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50841	XS5R	8 3/4	4681	5171	490	56 1/2

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50841	XS5R	8 3/4	5171	5172	491	56 1/2

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
11	49083	XS5R	8 3/4	5172	5234	62	7 3/4

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	900	40	40
8 A.M. TO 4 P.M.	6 1/2	900	40	40
4 P.M. TO 12 P.M.	6 1/2	900	32	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	72	1	22	2	
8 A.M. TO 4 P.M.	4"	72	1		3.	
4 P.M. TO 12 P.M.	4"	73	1	22	12	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	26			
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.		8.4	28			

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	1 DEG. AT 5172 FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	RIG SERVICE & BOP'S
12:15		DRILL

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig SERV BOP
8:15	8:45	SURVEY
8:45	3:45	HOIST BIT # 10
-		RUN BIT # 11
3:45	4:00	Clean 12' FILL ON BOTTOM

FROM	TO	DESCRIPTION OF WORK
4:00	4:15	Rig SERV BOP
4:15	12:00	DRILL

DRILLER David Todd NO. HELPERS 4

DRILLER Smith Horrocks NO. HELPERS

DRILLER NO. HELPERS

52 - 88AX4
REV 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 30 73

WELL NAME	H.B. GULF FISHLAKE G-60	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG U-34	K. B. ELEV.
RIG NO.	12	TOOL PUSHER	GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: KW

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 4881 PROGRESS 68 END 4952	START 4952 PROGRESS 84 END 5036	START 5036 PROGRESS 74 END 5110

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50851	X55R	8¾	4681	4952	271	33¾

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50851	X55R	8¾	4681	5036	355	41½

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50851	X55R	8¾	4681	5110	409	48¾

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ X 14	900	40	40
8 A.M. TO 4 P.M.	6½ X 14	900	40	40
4 P.M. TO 12 P.M.	6½ X 14	900	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	68	1	22	41	
8 A.M. TO 4 P.M.	4"	70	–	22		–
4 P.M. TO 12 P.M.	4"	71	1	22	13	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	28			
8 A.M. TO 4 P.M.	WATER	8.4	28	-	-	-
4 P.M. TO 12 P.M.	WATER	8.4	28			

ADDITIVES:

CORING

NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.				
8 A.M. TO 4 P.M.				
4 P.M. TO 12 P.M.				

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	RIG SERVICE & BOP'S
12:15	8:00	DRILL

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig SERV & Bop Kelly cock
8:15	4:00	DRILL

FROM	TO	DESCRIPTION OF WORK
4:00	4:15	Rig SERV BOP
4:15	6:15	DRILL
6:15	6:45	WORK ON STAND PIPE
6:45	12:00	DRILL

DRILLER: David Tidd NO. HELPERS 4

DRILLER: Emil Horrocks NO. HELPERS

DRILLER: NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 29 / 73

WELL NAME	H.B. Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E.H. Radford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 4701 PROGRESS 57 END 4758	START 4758 PROGRESS 57 END 4815	START 4815 PROGRESS 69 END 4884

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50851	X55R	8 3/4	4681	4758	77	10 3/4
10	50851	X55R	8 3/4	4681	4815	134	18 1/4
10	50851	X55R	8 3/4	4681	4884	203	26

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 x 14	900	40	40
8 A.M. TO 4 P.M.	6 1/2 x 14	900	40	40
4 P.M. TO 12 P.M.	6 1/2 x 14	900	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4	65	1	22	35	
8 A.M. TO 4 P.M.	4	66	1	22	30	
4 P.M. TO 12 P.M.	4	67		22	36	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	28			
8 A.M. TO 4 P.M.		8.4	28			
4 P.M. TO 12 P.M.		8.4	28			

ADDITIVES

4 P.M. TO 12 P.M. ADDITIVES: SLM 4029.5 ; Alo. Conv. Bound. 4027.84 ; 1.72

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. / INTERVAL / FORMATION
VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12.00	12.15	Rig Serv & BOP's
12.15	8.00	Drill
8.00	8.15	Rig Service & BOP's
8.15	1.15	Drill
1.15		Rig inspected by G. Wood Conservation Engineer.
	1.50	
1.50	4.00	Drill
4.00	4.15	Rig Serv BOP
4.15	12.00	Drill

DRILLER: Bob Gerhardt — NO. HELPERS: 4
DRILLER: David Todd — NO. HELPERS: 4
DRILLER: Emil Harrocks — NO. HELPERS:

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REV 2/72

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 28/73

WELL NAME	H.B. Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U-34
RIG NO.		TOOL PUSHER	
K. B. ELEV.		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E.B. Kaufman

12

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 4618 PROGRESS 39 END 4658	START 4658 PROGRESS 23 END 4681	START 4681 PROGRESS 20 END 4701

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
9	M5715	4JS	8¾	4346	4658	312	39½

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
9	M5715	4JS	8¾	4346	4681	335	45

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
10	50851	X55A	8¾	4681	4701	20	3

DRILLING DATA

12 P.M. TO 8 A.M.	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ x 14	900	40	40

8 A.M. TO 4 P.M.	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ x 14	900	40	40

4 P.M. TO 12 P.M.	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ x 14	900	40	40

DRILLING STRING

12 P.M. TO 8 A.M.	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4	64	—	22	27	

8 A.M. TO 4 P.M.	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4	64	1	22	19	

4 P.M. TO 12 P.M.	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4	64	1	22	39	

MUD RECORD

12 P.M. TO 8 A.M.	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.4	28			

ADDITIVES

8 A.M. TO 4 P.M.	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.4	28			

ADDITIVES

4 P.M. TO 12 P.M.	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.4	28			

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

8 A.M. TO 4 P.M.: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

4 P.M. TO 12 P.M.: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) | INITIAL SHUT-IN (MINS.) | FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP | FHP | IFP | FFP | ISIP | FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	12¹⁵	Rig Serv & Bop's
12¹⁵	3¹⁵	Drill
3¹⁵	3³⁰	Survey
3³⁰	8⁰⁰	Drill

DRILLER Bob Gerbrandt NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8⁰⁰	8¹⁵	Rig Service & Bop's
8¹⁵	10⁰⁰	Drill
10⁰⁰	10¹⁵	Weld Stand Pipe
10¹⁵	1⁰⁰	Drill
1⁰⁰	4⁰⁰	Blow Kelly Stand Out

DRILLER [illegible] NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4⁰⁰	5⁰⁰	Repair Fl. Lines Finish Out
5⁰⁰	6¹⁵	Skip 15' Line Repair Water Lines
6¹⁵	8³⁰	Run In
8³⁰		Break Circ & Clean To Bott
	9⁰⁰	(3' Fill) Rig Serv & Bop's
9⁰⁰	12⁰⁰	Drill

DRILLER NO. HELPERS

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 27 /73

WELL NAME H.B. Gulf Fish Lake
CONTRACTOR Commonwealth
RIG NO. 12
TYPE RIG U-34-D
TOOL PUSHER J. Mathison
LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR E. Redford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 4423 PROGRESS 63 END 4486	START 4486 PROGRESS 60 END 4546	START 4546 PROGRESS 73 END 4619

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
9	MS 715	HJS	8¾	4346	4486	140	16½
9	MS715	HJS	8¾	4346	4546	200	24¼
9	MS715	HJS	8¾	4346	4619	273	32

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ x 14	900	45	25/35
8 A.M. TO 4 P.M.	6½ x 14	900	35/40	25/40
4 P.M. TO 12 P.M.	6½ x 14	900	40	35

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4	61	1	22	11	
8 A.M. TO 4 P.M.	4"	62	—	22	11	
4 P.M. TO 12 P.M.	4"	63	1	22	19	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		8.4	28			
8 A.M. TO 4 P.M.		8.4	28			
4 P.M. TO 12 P.M.		8.4	28			

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12^00	12^15	Rig Serv & Bop's
12^15	8^00	Drill
8^00	8^15	Rig Service & BOP's
8^15	4^00	Drill
4^00	4^15	Rig Service & BOP's
4^15	12^00	Drill

DRILLER Bob Gebhardt NO. HELPERS 4
DRILLER David Gadd NO. HELPERS 4
DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 26/73

WELL NAME H. B. Gulf Fish Lake
CONTRACTOR Commonwealth
TYPE RIG U-34-D.
RIG NO. 12
TOOL PUSHER F. Mattinson
LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR E.B. Redford

12 P.M. TO 8 A.M.

DEPTH: START 4264 PROGRESS 76 END 4340

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
8	852858	X55R	8¾	3775	4340	565	81½

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6½	900	40/55	25/35

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	59		22	21	

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	8.5	28			

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: 2 DEG. AT 4100 FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS: NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	12¹⁵	Drill
12¹⁵	12⁴⁵	Rig Serv v Bop's + Survey
12⁴⁵	8⁰⁰	Drill

DRILLER Bob Gerbrandt NO. HELPERS 4

8 A.M. TO 4 P.M.

DEPTH: START 4340 PROGRESS 6 12 END 4346 52

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
8	852858	Y55R	8¾	3775	4346	571	82
9	MS715	4J5	8¾	4346	4352	6	

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6¼ 14	850	40/50	25

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	59		22	33	

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS: NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
800	815	Rig Service v Bop's
815	845	Drill
845	930	Circ Sample
930	1200	Blow Kelly Poh.
1200		Change Bits v Blind Rams
	300	Run In, Break Circ
300	400	Drill

DRILLER David Todd NO. HELPERS 4

4 P.M. TO 12 P.M.

DEPTH: START 4352 PROGRESS 71 END 4423

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
9	MS715	4J5	8¾	4346	4423	77	8¾

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6½ x14			

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4"	60		22	41	

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS: NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
400	500	Drill
500	515	Rig Service
515	1200	Drill

DRILLER NO. HELPERS

REMARKS INCLUDING: CEMENTING LOGGING PERFORATING ACIDIZING FRACTURING PLUGS

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REV. 2/71△

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 25/73.

WELL NAME H.B. GULF FISH LAKE
CONTRACTOR COMMONWEALTH
TYPE RIG U. 34-D.
RIG NO. 12
TOOL PUSHER
LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR

12 P.M. TO 8 A.M.

DEPTH: START 4068 PROGRESS 58 END 4126

BIT RECORD	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
	8.	52858	X55R	8¾	3775	4126	351	58½

DRILLING DATA	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ X 14	850	40	40

DRILLING STRING	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4	55	1	22	25	

MUD RECORD	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.5				

ADDITIVES

CORING	NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING LOGGING PERFORATING ACIDIZING FRACTURING PLUGS

FROM	TO	DESCRIPTION OF WORK
12^{00}	12^{15}	RIG SERV ✓ BOP'S
12^{15}	8^{00}	DRILL

DRILLER Bob Gerhard NO. HELPERS 4

8 A.M. TO 4 P.M.

DEPTH: START 4126 PROGRESS 72 END 4198

BIT RECORD	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
	8	52858	X55R	8¾	3775	4198	423	66¼

DRILLING DATA	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ X 14	850	40/45	35/40

DRILLING STRING	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4"	56	1	22	24'	

MUD RECORD	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.5	28			

ADDITIVES

CORING	NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
8^{00}	8^{15}	RIG SERVICE ✓ BOP'S
8^{15}	4^{00}	DRILL

DRILLER David NO. HELPERS 4

4 P.M. TO 12 P.M.

DEPTH: START 4198 PROGRESS 68 END 4264

BIT RECORD	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
	8	52858	X55R	8¾	3775	4264	491	74

DRILLING DATA	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
	6½ X 14	850	40	35/40

DRILLING STRING	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
	4	57	1	22	36	

MUD RECORD	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
		8.5	28			

ADDITIVES

CORING	NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
4^{00}	4^{15}	RIG SERVICE ✓ BOP'S
4^{15}	12^{00}	DRILL

DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 24/73

WELL NAME H.B. GULF FISHLAKE G-60
CONTRACTOR COMMONWEALTH DRIG
TYPE RIG WI. 34
RIG NO. 12
TOOL PUSHER Floyd Pattinson.

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E.S. Richford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 3914 PROGRESS 50 END 3964	START 3964 PROGRESS 46 END 4010	START 4010 PROGRESS 58 END 4068

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
8	52858	X55R	8¾	3775	3964	189	35¾
8	52858	X55R	8¾	~~3964~~	4010	235	43
8	52858	X55R	8¾	3775	4068	293	50¾

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ X 14	850	40	40
8 A.M. TO 4 P.M.	6½ X 14	850	40	40
4 P.M. TO 12 P.M.	6½ X 14			

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4	53	—	22	20	
8 A.M. TO 4 P.M.	4	53	1	22	35	
4 P.M. TO 12 P.M.	4"					

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.0	31	10.0	11.0	
8 A.M. TO 4 P.M.		9.0	30			
4 P.M. TO 12 P.M.		8.8	30			

ADDITIVES 1" STREAM WATER

ADDITIVES CIRCULATING SUMP FROM 3:00PM

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	RIG SERV & BOP'S KELLY COCK
12:15	8:00	DRILL

FROM	TO	DESCRIPTION OF WORK
8:00	8:30	DRILL
8:30	9:15	REPAIR KELLY HOSE UNION LEAK, RIG SER.
9:15	4:00	DRILL

FROM	TO	DESCRIPTION OF WORK
4:00	5:00	DRILL
5:00	5:15	RIG SERVICE & BOP'S
5:15	12:00	DRILL

DRILLER Bob Gerbrandt NO. HELPERS 4
DRILLER David Hall NO. HELPERS 4
DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 23 /73

WELL NAME Hudson Bay Gulf Fish Lake 6-60
CONTRACTOR Commonwealth Drlg. TYPE RIG U-34
RIG NO. 12 TOOL PUSHER J. Mathieson

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 3797 PROGRESS 40 END 3837	START 3837 PROGRESS 37 END 3874	START 3874 PROGRESS 40 END 3914

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	52858	XSSR	8¾	3775	3837	62	12½
6	52858	XSSR	8¾	3837	3875	99	20¼
8	52858	XSSR	8¾	3875	3914	139	28

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ X 14	850	40	40
8 A.M. TO 4 P.M.	6½ X 14	850	40	40
4 P.M. TO 12 P.M.	6½ X 14	850	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4	51		22		
8 A.M. TO 4 P.M.	4	51	1	22	24	
4 P.M. TO 12 P.M.	4"	52	—	22	33	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.4	45	5.4	11.5	2/32
8 A.M. TO 4 P.M.		9.4	45	5.4	11.5	1/32
		9.4	43	5.4	11.5	2/32
4 P.M. TO 12 P.M.		9.3	41	5.4	11.5	2/32

ADDITIVES Gel - 4000 #
Caustic - 300 #
Peltex - 1250 #

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.
8 A.M. TO 4 P.M.: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.
4 P.M. TO 12 P.M.: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	12¹⁵	Rig Serv ✓ Bop's
12¹⁵	8⁰⁰	Drill

DRILLER Bob Gerbrandt NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
800	1245	Drill
1245	100	Rig Service ✓ BOP's
100	400	Drill

DRILLER David Todd NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
400	415	Rig Service ✓ BOP's
415	12⁰⁰	Drill

DRILLER NO. HELPERS

52 - 88AX
REV. 2/79

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 22/73

WELL NAME Hudson Bay Gulf Fish Lake A-60
CONTRACTOR Commonwealth Drlg TYPE RIG Ulch 34
RIG NO. 12 TOOL PUSHER J. Matheson

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E. Redford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 3746 PROGRESS 7 END 3753	START 3753 PROGRESS 22 END 3775	START 3775 PROGRESS 22 END 3797

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
7	48760	WD7	8 3/4	3746	3753	7	2 1/4
7	48760	WD7	8 3/4	3746	3775	29	7 3/4
8	52858	X55B	8 3/4	3775	3797	22	4 3/4

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 x 14	900	44	40,000
8 A.M. TO 4 P.M.	6 1/2 x 14	900	48	40
4 P.M. TO 12 P.M.	6 1/2 x 14	900	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4	49	1	22	26	
8 A.M. TO 4 P.M.	4	50	—	22	19	
4 P.M. TO 12 P.M.	4"	50	0	22	41	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
8 A.M. TO 4 P.M.		9.3	44	10.0	11.5	2/32
4 P.M. TO 12 P.M.		9.4	51	50	11.0	2/32

ADDITIVES (12 P.M. TO 8 A.M.):

ADDITIVES (8 A.M. TO 4 P.M.): Gel - 2000#, Caustic - 200#, Peltex - 500#

ADDITIVES (4 P.M. TO 12 P.M.): Gel - 2000#, Peltex - 500#, Caustic -

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 00	12 20	Rig Service W.O.C. Blow Kelly
12 20	5 15	Trip for Bit
5 15	5 45	Break Circ & Clean 20' to Bottom
5 45	8 00	Drill 8 3/4" Hole

DRILLER NO. HELPERS

FROM	TO	DESCRIPTION OF WORK
8 00	8 15	Rig Serv / Book's
8 15	1 30	Drill
1 30	3 45	Hoist
3 45	4 00	Change Bits / Blind Rams

DRILLER Bob Gerhardt NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
400	415	Rig Service
415	645	R.L.H. Bit No. 8
645	700	Break Circ. Clean 10' to Btm.
700	715	Repair Mud Line Valve
715	1200	Drill 8 3/4" Hole

DRILLER David Field NO. HELPERS 4

B2 - 8BAX4
REV. 2/71A

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 21 /73

WELL NAME Hudson Bay Gulf Fish Lake Q 60		LDG. FLG. TO KB	
CONTRACTOR Commonwealth Drlg	TYPE RIG Unit 34	K. B. ELEV.	
RIG NO. 12	TOOL PUSHER J. Moore	GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR E. Rafford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 3589 PROGRESS 52 END 3641	START 3641 PROGRESS 55 END 3696	START 3696 PROGRESS 50 END ~~3746~~

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
~~6~~	42716	X55R	8 3/4	3165	3641	476	64

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8 3/4	3165	3696	531	71 1/4

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8 3/4	3165	~~3746~~ 3746	581	79

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	900	48	40,000
8 A.M. TO 4 P.M.	6 1/2 X 14	950	50	40
4 P.M. TO 12 P.M.	6 1/2 X 14	1000	50	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	47	1	22	34	
8 A.M. TO 4 P.M.	4'	48	1	22	30	
4 P.M. TO 12 P.M.	4	49	1	22	19	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.	Gel	9.2	45		11.5	
8 A.M. TO 4 P.M.		9.2	40	8.0	12.0	2/32
4 P.M. TO 12 P.M.						

ADDITIVES (12 P.M. TO 8 A.M.): Gel 3200; Caustic 200; Peltex 150

ADDITIVES (8 A.M. TO 4 P.M.): Gel - 5000#; Peltex - 500#; Caustic - 200#; CMC - 400#

ADDITIVES (4 P.M. TO 12 P.M.):

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	1 1/2 DEG. AT 3600 FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Rig Service & W B.O.P.
12:15	5:00	Drill 8 3/4" Hole
5:00	5:15	Weld Stand Pipe
5:15	6:00	Drill 8 3/4" Hole
6:00	6:30	Weld Stand Pipe
6:30	8:00	Drill 8 3/4" Hole

DRILLER Ray Stum NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig Serv & Bop's
8:15	12:15	Drill
12:15	12:45	Survey
12:45	4:00	Drill

DRILLER Bob Gerbrandt NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4:00	5:45	Drill
5:45	6:00	Rig Serv & Bop's
6:00	12:00	Drill

DRILLER Ray Stum NO. HELPERS

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 20/73

WELL NAME	Hudson Bay Gulf Fish Lake Q.60		
CONTRACTOR	Commonwealth Drlg	TYPE RIG	Unit 34
RIG NO.	12	TOOL PUSHER	J. Hutchison

I.DG. FLG. TO KB	
K. B. ELEV.	
GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR

DEPTH

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
START	3440	3489	3541
PROGRESS	49	52	48
END	3489	3541	3589

BIT RECORD

	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.	6	42716	X55R	8 3/4	3165	3489	324	49 1/2
8 A.M. TO 4 P.M.	6	42716	X55R	8 3/4	3165	3541	376	57 1/4
4 P.M. TO 12 P.M.	6	42716	X55R	8 3/4	3165	3589	424	57

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	1000	44	40,000
8 A.M. TO 4 P.M.	6 1/2 X 14	1000	44	40
4 P.M. TO 12 P.M.	6 1/2 X 14	1000	44	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	45	-	22	DN	
8 A.M. TO 4 P.M.	4'	46	-	22	31	
4 P.M. TO 12 P.M.	4	47	-	22	16	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.	Gyp	9.2	43	11.4	11.0	2/32
4 P.M. TO 12 P.M.	Gel	9.2	45		11.0	

ADDITIVES (12 P.M. TO 8 A.M.):

ADDITIVES (8 A.M. TO 4 P.M.):
Gel - 500 #
CMC - 100 #

ADDITIVES (4 P.M. TO 12 P.M.):
Gel - 900 #
Caustic 50 #
Peltex 50 #

CORING

	NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.					
8 A.M. TO 4 P.M.					
4 P.M. TO 12 P.M.					

SURVEY

	DEG. AT	FT.	DEG. AT	FT.	DEG. AT	FT.
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.	[illegible]	[illegible]				
4 P.M. TO 12 P.M.						

DRILL STEM TESTS

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
NO.			
INTERVAL			
FORMATION			
VALVE OPEN (MINS.)			
INITIAL SHUT-IN (MINS.)			
FINAL SHUT-IN (MINS.)			
GAS TO SURFACE MIN. @ MCF/D MAX.			
OIL TO SURFACE MIN. @ BBL/D MAX.			
RECOVERY:			
PRESSURES IHP			
FHP			
IFP			
FFP			
ISIP			
FSIP			

REMARKS INCLUDING: CEMENTING LOGGING PERFORATING ACIDIZING FRACTURING PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Rig service & ✓ B.O.P's
12:15	8:00	Drill 8 3/4" Hole

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	Rig Serv. ✓ Bop's
8:15	4:00	Drill

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4:00	4:15	Rig Serv ✓ Bop's
4:15	9:15	Drill
9:15	9:30	Weld Stand Pipe
9:30	12:00	Drlg 8 3/4" Hole

	DRILLER	NO. HELPERS
12 P.M. TO 8 A.M.	Ray Sturm	4
8 A.M. TO 4 P.M.	Bob Gebhardt	4
4 P.M. TO 12 P.M.	Ray Sturm	4

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 19/73

WELL NAME	Hudson Bay Gulf Fish Lake A-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth Drlg	TYPE RIG	Unit 34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E. Redford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 3295 PROGRESS 48 END 3343	START 3343 PROGRESS 48 END 3391	START 3391 PROGRESS 49 END 3440

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8¾	3295	3343	178	24½
6	42716	X55R	8¾	3165	3391	226	34
6	42716	X55R	8¾	3165	3440	275	41¾

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ x 14	1000		
8 A.M. TO 4 P.M.	6½ x 14	1000	40	40
4 P.M. TO 12 P.M.	6½ x 14	1000	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	43	-	22	20	
8 A.M. TO 4 P.M.	4	43	1	22	36	
4 P.M. TO 12 P.M.	4	44	1	22	22	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.	Gel	9.0	44	12.8	12.0	2/32
8 A.M. TO 4 P.M.	Gyp	9.1	44	10.6	11.5	2/32
4 P.M. TO 12 P.M.	Gel	9.1	45	10.6	11.5	2/32

ADDITIVES (12 P.M. TO 8 A.M.): Gel 2000# Peltex 50 Salt Mud 100 Caustic 50

ADDITIVES (8 A.M. TO 4 P.M.): Gel - 4300# CMC - 150# Caustic - 150# Peltex - 150#

ADDITIVES (4 P.M. TO 12 P.M.):

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12:00	1:00	Drill 8¾" Hole
1:00	1:15	Rig service & B.O.P's
1:15	8:00	Drill 8¾ Hole

DRILLER Ray Storm NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8:00	11:00	Drill
11:00	11:15	Rig Serv & Bop's
11:15	11:30	Weld stand pipe
11:30	4:00	Drill

DRILLER Bob Gerhardt NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4:00	4:30	Drill
4:30	4:45	Rig Serv & Bop's
4:45	12:00	Drill

DRILLER Ray Storm NO. HELPERS 4

52 - 8DAX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 14 / 73

WELL NAME	Hudson Bay Gulf Fish Lake Q 60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth Drlg	TYPE RIG	Unit 34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: E. Redford

12 P.M. TO 8 A.M.

DEPTH: START 3165 PROGRESS 20 END 3185

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8 3/4	3165	3185	20	3/4

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2 x 14	1000	35	40

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4"	40	1	22	19	

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	9.1	40	18	11.5	2/32

ADDITIVES: Gel 2000#; Salt Mud 800#; Caustic 100#

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:45	Rig Service & Blind Rams
	12:45	& Slip 15' Line
12:45		Change Rubber on Stabilizer
	2:15	& Move 30' Down (Torqued)
2:15	4:45	Run in & Clean 60' To Bottom
4:45	8:00	Drill 8 3/4" Hole

DRILLER: Ray Stevens NO. HELPERS 4

8 A.M. TO 4 P.M.

DEPTH: START 3185 PROGRESS ~~220R~~ 67 END 3252

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8 3/4	3165	3252	87	11

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2 x 14	1000	35/40	40

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	41	1	22	22	

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
Gyp	9.1	48	18	11.5	2/32

ADDITIVES: Gel - 3000#; Caustic - 100#; Salt Gel - 1500#; Peltex - 100#; CMC - 200#

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
8:00	10:00	Drill
10:00	10:15	Rig Serv. ✓ BOP's
10:15	4:00	Drill

DRILLER: Bob Gerhardt NO. HELPERS 4

4 P.M. TO 12 P.M.

DEPTH: START 3252 PROGRESS 43 END 3295

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
6	42716	X55R	8 3/4	3165	3295	120	18 3/4

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2 x 14	1000	40	40

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
4:00	7:15	Drill
7:15	7:30	Rig Service & ✓ B.O.P's
7:30	12:00	Drill

DRILLER: Ray Stevens NO. HELPERS 4

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 17/73

WELL NAME	Hudson Bay Gulf Fish Lake 60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth Drlg	TYPE RIG	Unit 37
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								E. J. Redford

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 2995 PROGRESS 75 END 3070	START 3070 PROGRESS 61 END 3131	START 3131 PROGRESS END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.							
5	45146	X55R	8 3/4	2410	3070	660	74 3/4
8 A.M. TO 4 P.M.							
5	45146	X55R	8 3/4	2410	3131	721	82
4 P.M. TO 12 P.M.							
5	45146	X55R	8 3/4	2410			

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 x 14	1100	40	40,000
8 A.M. TO 4 P.M.	6 1/2 x 14	1000	40	40
4 P.M. TO 12 P.M.	6 1/2 x 14	1000	40	

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	38	1	22	28	
8 A.M. TO 4 P.M.	4	39	1	22	29	
4 P.M. TO 12 P.M.	4			22		

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
8 A.M. TO 4 P.M.		9.0	42	12	10.5	2/32

ADDITIVES (12 P.M. TO 8 A.M.): Gel 1100#; Salt mud 960#; Caustic 50#

ADDITIVES (8 A.M. TO 4 P.M.): Caustic - 350#; Salt Gel - 1000#; Peltex - 1000#; Gel - 2000#

ADDITIVES (4 P.M. TO 12 P.M.):

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	2 1/16° DEG. AT 3100 FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 P.M. TO 8 A.M.		
12:00	12:15	Rig Service & B.O.P's
12:15	4:00	Drill 8 3/4" Hole
8 A.M. TO 4 P.M.		
8:00	9:15	Drill
9:15	9:30	Rig Serv. & BOP's
9:30	1:15	Drill
1:15	1:45	Survey
1:45	4:00	Drill
4 P.M. TO 12 P.M.		
4:00	8:30	Drill
8:30	12:00	Blow Kelly & Hoist Rig Sub. (Tight Hole)

	DRILLER	NO. HELPERS
12 P.M. TO 8 A.M.	Ray Stum	4
8 A.M. TO 4 P.M.	Bob Gerbrandt	4
4 P.M. TO 12 P.M.	Ray Stum	4

52 - 8BAXM
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 16/73

WELL NAME	Hudson Bay Gulf Fish Lake C-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth Drlg	TYPE RIG	Unit 34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 2792 PROGRESS 65 END 2857	START 2857 PROGRESS 69 END 2926	START 2926 PROGRESS 69 END 2995

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.							
5	45146	X55R	8 3/4	2410	2857	447	51 1/2
8 A.M. TO 4 P.M.							
5	45146	X55R	8 3/4	2410	2926	516	59 1/4
4 P.M. TO 12 P.M.							
5	45146	X55R	8 3/4	2410	2995	[illegible] 585	67

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	1000	40	40
8 A.M. TO 4 P.M.	6 1/2 X 14	1000	40	40
4 P.M. TO 12 P.M.	6 1/2 X 14	1000	40	40

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	6 1/2 X 14	35	—	22		
8 A.M. TO 4 P.M.	4	36	1	22	10	
4 P.M. TO 12 P.M.	4	37	1	22	15	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.1	45	12.5	11.0	2/32
8 A.M. TO 4 P.M.		9.0	43	13.0	10.5	2/32
4 P.M. TO 12 P.M.						

ADDITIVES (12 P.M. TO 8 A.M.): Gel 1000#; Salt Gel 400#

ADDITIVES (8 A.M. TO 4 P.M.): Gel - 700#; Pelt-ex - 50#; Salt Gel - 700#; Caustic - 50#

ADDITIVES (4 P.M. TO 12 P.M.):

CORING

NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.				
8 A.M. TO 4 P.M.				
4 P.M. TO 12 P.M.				

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 P.M. TO 8 A.M.		
12 00	1 00	Drill 8 3/4" Hole
1 00	1 15	Rig service on B.O.P's
1 15	8 00	Drill 8 3/4" Hole
8 A.M. TO 4 P.M.		
8 00	8 15	Rig Serv & Bop's + Kelly Cock
8 15	4 00	Drill
4 P.M. TO 12 P.M.		
4 00	4 15	Rig Serv & Bops
4 15	12 00	Drill 8 3/4" Hole

	DRILLER	NO. HELPERS
12 P.M. TO 8 A.M.	Ray Stern	4
8 A.M. TO 4 P.M.	Bob Gerbrandt	4
4 P.M. TO 12 P.M.	Ray Stern	4

52 - 88AX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 14/15/73

WELL NAME	HUDSONS BAY GULF FISH LAKE	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 2625 PROGRESS 50 END 2675	START 2675 PROGRESS 58 END 2733	START 2733 PROGRESS 59 END 2792

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
5	45146	X55R	8¾	2625	2675.	50	30
5	45146	X55R	8¾	2410	2733	323	36¾
5	45146	X55R	8¾	2410	2792	382	43¾

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½ X 14	950	40	40M
8 A.M. TO 4 P.M.	6½ X 14	950	40	40,000
4 P.M. TO 12 P.M.	6½ X 14	1000	40	40,

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	32	0	22	40	
8 A.M. TO 4 P.M.	4"	33	—	22	36	
4 P.M. TO 12 P.M.	4	34	—	22	8' UP	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.0	45	HIGH	9.5	2/32
		9.0	45		9.5	
8 A.M. TO 4 P.M.	SALT GEL	9.0	40	28	10.5	2/32
4 P.M. TO 12 P.M.	SALT GEL	9.0	40	12	9.5	2/32

ADDITIVES (12 P.M. TO 8 A.M.): GEL 3500#; CAUSTIC 50#; DV-68 3 GALLONS

ADDITIVES (8 A.M. TO 4 P.M.): GEL 1000#; PELTEX 200#; SALT GEL 1000#; SODA ASH 200; CAUSTIC 100#

ADDITIVES (4 P.M. TO 12 P.M.): GEL - 1700#; PELTEX - 100#; SALT GEL - 1700#; CAUSTIC - 100#

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.: 1° DEG. AT 2600 FT. DEG. AT FT. DEG. AT FT.

8 A.M. TO 4 P.M.: DEG. AT FT. DEG. AT FT. DEG. AT FT.

4 P.M. TO 12 P.M.: DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12:00	2:15	DRILL
2:15	2:45	RIG SERVICE + BOP'S SURVEY 1°
2:45	6:00	DRILL
6:00	6:30	WELD STAND PIPE
6:30	8:00	DRILL

DRILLER [illegible]

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8:00	8:15	RIG SERVICE + B.O.P'S
8:15	9:00	WELD STAND PIPE
9:00	11:15	DRILL 8¾" HOLE
11:15	11:30	WELD STAND PIPE
11:30	4:00	DRILL 8¾" HOLE

DRILLER Bay Strum NO. HELPERS

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4:00	4:30	DRILL
4:30	4:45	RIG SERV + BOP'S + KELLY COCK
4:45	6:00	DRILL
6:00	6:15	WELD STANDPIPE
6:15	8:30	DRILL
8:30	9:00	WELD STAND PIPE
9:00	12:00	DRILL

DRILLER Bob Gerhardt NO. HELPERS 4

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 14/73

WELL NAME	HUDSONS BAY GULF FISH LAKE G-60	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

DEPTH

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
START 2425 PROGRESS 68 END 2493	START 2493 PROGRESS 65 END ~~2558~~ 2558	START 2558 PROGRESS 67 END 2625

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.							
5	45146	X55R	8 3/4	2410	2493	88	9 1/2
	70855	Dilco	8 3/4	Stabilizer			
8 A.M. TO 4 P.M.							
5	45146	X55R	8 3/4	2410	2558	[redacted]	
4 P.M. TO 12 P.M.							
5	45146	X55R	8 3/4	2410	2625	215	7 3/4

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	950	40	40
8 A.M. TO 4 P.M.				
4 P.M. TO 12 P.M.	6 1/2 X 14	950	40	40M

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	29	1	22	16	
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.	4	31	1	22	22	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.0	50	HIGH	9.5	4/32
		9.1	55			
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.		9.0	43		9.5	
		9.1	42		9.5	

ADDITIVES 12 P.M. TO 8 A.M.: GEL 3000 #; CAUSTIC 50 #; DV 68 3 GAL.

ADDITIVES 8 A.M. TO 4 P.M.:

ADDITIVES 4 P.M. TO 12 P.M.:

CORING

NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.				
8 A.M. TO 4 P.M.				
4 P.M. TO 12 P.M.				

SURVEY

	DEG. AT	FT.	DEG. AT	FT.	DEG. AT	FT.
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12 00	12 15	~~[illegible]~~ RIG SERVICE, CLOSE PIPE RAMS.
12 15	4 15	DRILL
4 15	4 30	REPAIR SHOCK HOSE UNION
4 30	8 00	DRILL

DRILLER David Gold NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8 00	8 30	RIG SERVICE & V.B.O.P's
8 30	4 00	DRILL 8 3/4" HOLE

DRILLER Ray Stu[illegible] NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4 00	4 15	RIG SERVICE & BOP's
4 15	12 00	DRILL

DRILLER NO. HELPERS

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 13/73

WELL NAME Hudsons Bay Gulf Fish Lake G 60
CONTRACTOR Commonwealth — TYPE RIG U-34
RIG NO. 12 — TOOL PUSHER

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: JRW.

DEPTH

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
START 2350 PROGRESS 60 END 2410	START PROGRESS END	START 2410 PROGRESS 15 END 2425

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
4	43038	X55R	8 3/4	2330	2410	283	27 3/4
	70855		8 3/4	Stabilizer			

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
5	45146	X55R	8 3/4	2410	2425	15	1 3/4

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2 x 14	950	50	40M

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2 x 14	950	40	40

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	28	0	22	26	

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	28	0	22	40	

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	9.0	48	High		2/32
	9.0	56			

ADDITIVES Gel 2700 DV-68 -2 gal
Soda Ash 1000 Peltex 150#
Caustic 50#

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	9.0	46		9.5	

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

NO.	FROM	TO	RECOVERED	FORMATION

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. DEG. AT FT. DEG. AT FT.

DEG. AT FT. DEG. AT FT. DEG. AT FT.

DEG. AT FT. DEG. AT FT. DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP

NO. 1 INTERVAL 2150-2410 FORMATION Wabiskaw
VALVE OPEN (MINS.) 30 INITIAL SHUT-IN (MINS.) 30 FINAL SHUT-IN (MINS.) 60
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY: 50' Drlg mud.

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP
	1042	1042	39	49	833	891

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
1200	330	Drill
330	345	Weld stand pipe
345	600	Drill
700	800	Cond mud to test

DRILLER David Field NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
800	1015	Rig service, blow kelly, hoist
1015	1115	Make up packer
1115	100	Run in
100	400	Head to test

DRILLER NO. HELPERS

FROM	TO	DESCRIPTION OF WORK
400	415	Rig service + c BOP's
415	600	Hoist
600		Break down test tool + recover
	730	Load out tester charts
730	930	Run in
930	1000	Weld stand pipe
1000	1015	Break circ
1015	1200	Drill

DRILLER NO. HELPERS

52 - 8BAX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 12/73

WELL NAME	HUDSONS BAY GULF FISH LAKE	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	[illegible]
K. B. ELEV.		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 2137 PROGRESS 45 END 2182	START 2182 PROGRESS 86 END 2268	START 2268 PROGRESS 82 END 2350

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
4	43038	X55R	8 3/4	2137	2182	45	5
	70855		8 3/4	stabilizer			
4	43039	X55R	8 3/4	2137	2268	131	12 3/4
	70855		8 3/4	stabilizer			
4	43038	X55R	8 3/4	2137	2350	213	20 1/4
	70855		8 3/4	Stabilizer			

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2 X 14	900	50	40
8 A.M. TO 4 P.M.	6 1/2 X 14	950	50	40,000
4 P.M. TO 12 P.M.	6 1/2 X 14	950	50	40,000

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	24	1	22		
8 A.M. TO 4 P.M.	4"	25	1	22	DN	
4 P.M. TO 12 P.M.	4"	27	0	22	28	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.1	46	HIGH	9.5	2/32
		9.1	39	HIGH	9.5	2/32
8 A.M. TO 4 P.M.	GEL	9.1	48	12.0	9.5	2/32
4 P.M. TO 12 P.M.		9.1	38	HIGH	9.5	2/32
		9.0	50		9.5	2/32

ADDITIVES (12 P.M. TO 8 A.M.): GEL 2200#; DV 68 2 GALLONS; CAUSTIC 50#

ADDITIVES (8 A.M. TO 4 P.M.): Gel 2500 DV68 3 gals. Caustic 100# Peltex 100# Sodacash 100#.

ADDITIVES (4 P.M. TO 12 P.M.): —

CORING

NO.	FROM	TO	RECOVERED	FORMATION
—				

SURVEY

	DEG. AT	FT.	DEG. AT	FT.	DEG. AT	FT.
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP / FHP / IFP / FFP / ISIP / FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 00	12 15	RIG SERVICE
12 15	12 30	CHANGE BITS, JETS, VBOP'S
12 30		R.I.H. BIT NO. 4 CHANGE 2 WORKING
	3 00	SINGLES SERVICE DC'S
3 00	8 00	DRILL
4 00	8 45	DRILL 8 3/4" HOLE
8 45	9 00	RIG SERVICE & V.B.O.P'S
9 00	4 00	DRILL 8 3/4" HOLE
4 00	4 15	RIG SERVICE & V.B.O.P'S
4 15	9 45	DRILL 8 3/4" HOLE
9 45	10 00	WELD STAND PIPE WASH
10 00	12 00	DRILL

DRILLER [illegible] NO. HELPERS 4

DRILLER Ray Stum NO. HELPERS 4

DRILLER NO. HELPERS

52 - 88AX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 11/73

WELL NAME	Hudsons Bay Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	U-34
RIG NO.	12	TOOL PUSHER	Tom Plante.
K. B. ELEV.		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 1920 PROGRESS 76 END 1996	START 1996 PROGRESS 86 END 2082	START 2082 PROGRESS 55 END 2137

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.							
3	48755	WD7	8¾	1920	1996	76	7
	70855	Stabilizer.					
8 A.M. TO 4 P.M.							
3	48755	WD7	8¾	1920	2082	162	14¼
	70855	Stabilizer.					
4 P.M. TO 12 P.M.							
3	48755	WD7	8¾	1920	2137	217	19¾
	70855		8¾	stabilizer			

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½	900	70/80	40 M
8 A.M. TO 4 P.M.	6½ X 14	900	75	40,000
4 P.M. TO 12 P.M.	6½ X 14	900	70/80	40 M

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	21	1	22-675.71		
8 A.M. TO 4 P.M.	4"	22	1	22	ON	
4 P.M. TO 12 P.M.	4	23	1	22	35	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.3	38	High	10.5	
		9.2	43	High	10.5	
8 A.M. TO 4 P.M.	Gel	9.0	45	—	9.5	2/32
4 P.M. TO 12 P.M.		9.0	40	High	9.5	2/32

ADDITIVES
- 12 P.M. TO 8 A.M.: Gel 3000; DV-68 3
- 8 A.M. TO 4 P.M.: Gel 1500 # 1 gal DV. 68; Caustic 50 #; Soda Ash 100 #
- 4 P.M. TO 12 P.M.: ~~[illegible]~~

CORING

NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.				
8 A.M. TO 4 P.M.				
4 P.M. TO 12 P.M.				

SURVEY
- 12 P.M. TO 8 A.M.: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.
- 8 A.M. TO 4 P.M.: ½ DEG. AT 2019 FT. / DEG. AT FT. / DEG. AT FT.
- 4 P.M. TO 12 P.M.: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

	NO.	INTERVAL	FORMATION
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 P.M. TO 8 A.M.		
1200	1245	R.I.H. Bit No. 3
1245	100	Break Circ. Rig Service
100	800	Drill - 40M - 70-80 RPM.
8 A.M. TO 4 P.M.		
800	1600	Drill 8¾" Hole 40,000 75 RPM
1600	1630	Rig Service & ✓ B.O.P's & Survey
1630	100	Drill 8¾" Hole
100	130	Clean Tank & Build Volume
130	400	Drill 8¾" Hole
4 P.M. TO 12 P.M.		
400	400	Rig Service & ✓ B.O.P's
400	945	Drill 8¾" Hole
945	1200	Blow Kelly & POH.

DRILLER: David Lovell — NO. HELPERS 1

DRILLER: Roy [illegible] — NO. HELPERS

DRILLER — NO. HELPERS

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REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 10/73

WELL NAME	Hudsons Bay Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG U-34	K. B. ELEV.
RIG NO.	12	TOOL PUSHER Plante.	GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR

DEPTH

	START	PROGRESS	END
12 P.M. TO 8 A.M.	1775	70	1845
8 A.M. TO 4 P.M.	1845		
4 P.M. TO 12 P.M.			

BIT RECORD

	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.	2	49199	XDV	8¾	1430	1845	415	23½
		70855		8¾ Stabilizer.				
8 A.M. TO 4 P.M.	2	49199	XDV	8¾	1430			
4 P.M. TO 12 P.M.								

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	5½ X 14	800	80-90	35/38
8 A.M. TO 4 P.M.	6½ X 14			
4 P.M. TO 12 P.M.				

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	20	9	20		
8 A.M. TO 4 P.M.	4"			20.562.16		
4 P.M. TO 12 P.M.						

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		~~9.05~~	42	HIGH	10.5	
		9.0	45	HIGH	10.5	
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

12 P.M. TO 8 A.M. ADDITIVES GEL 40 SKS. PELTEX 1 SK.
DV-68 4 GAL.
CAUSTIC 2 SKS.

8 A.M. TO 4 P.M. ADDITIVES 20 gel 2 gal DV68 Soda Ash 100
Twisted off 3rd SS. above D.C's.
Run Over shot jars. 2 D.C. recovered fish

4 P.M. TO 12 P.M. ADDITIVES

CORING

	NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.					
8 A.M. TO 4 P.M.					
4 P.M. TO 12 P.M.					

SURVEY

	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
12 P.M. TO 8 A.M.			
8 A.M. TO 4 P.M.			
4 P.M. TO 12 P.M.			

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP

REMARKS INCLUDING: CEMENTING LOGGING PERFORATING ACIDIZING FRACTURING PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
1200	12:45	DRILL 35-38M - 800/120RPM
1245	100	RIG SERVICE
100	700	DRILL
700	715	WORK ON PUMP SET WT. IND.
715	800	DRILL

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
800	930	Drill 8¾" Hole 38,000 120 R.P.M
930	945	Rig Service & B.O.Ps
945	145	Drill 8¾" Hole
145		Twisted off Below Kelly
		& Hoist Pick up 2 Collar
	400	& Jars make up overshot

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
400	530	Run in & Latch on To Fish
		Hoist & Break down
	800	Overshot
800	930	Finish Out Bit No2 Change Stab
930	945	Rubber / Rig Service & BOP's
945	1000	Change Bits, Jets
1000	1200	R.I.H. Bit No.3 Service Collars

DRILLER David Judd NO. HELPERS 4	DRILLER NO. HELPERS 4	DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

HUDSONS BAY GULF FISH LAKE 6-60

DAILY DRILLERS REPORT

DATE MARCH 9 / 73

WELL NAME	COMMONWEALTH	LDG. FLG. TO KB	
CONTRACTOR		TYPE RIG	U 34
RIG NO.	12	TOOL PUSHER	McPlante.
K. B. ELEV.		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: [illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 1430 PROGRESS 91 END 1521	START 1521 PROGRESS 159 END 1680	START 1680 PROGRESS 95 END 1775

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
1-RR	50786	XIG	8 3/4	612	1430	818	20
2	49199	XDV	8 3/4	1430	1521	91	3
	70855	Stabilizer.					

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
2	49199	XDV	8 3/4	1430	1680	250	8 3/4
	70855	Stabilizer.					

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
2	49199	XDV	8 3/4	1430	1775	345	16
	70855	Stabilizer.					

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6 1/2	800	100	20/30
8 A.M. TO 4 P.M.	6 1/2 X 14	800	150	35,000
4 P.M. TO 12 P.M.	6 1/2 X 14			

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	4"	14	1	20	40	
8 A.M. TO 4 P.M.	4"	17	—	20	DV	
4 P.M. TO 12 P.M.	4"	18	1	20	0	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.		9.2	HI	HI	9.5	
8 A.M. TO 4 P.M.		8.9	42	-	10.5	
4 P.M. TO 12 P.M.		8.9	42	HIGH		

ADDITIVES (12 P.M. TO 8 A.M.): GEL 20 SKS. DV. 68 - 2 GALLONS. CAUSTIC 1 SKS.

ADDITIVES (8 A.M. TO 4 P.M.): GEL 75 SKS. DV. 68. 1 gal.

ADDITIVES (4 P.M. TO 12 P.M.): CAUSTIC 50#

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

	DEG. AT	FT.	DEG. AT	FT.	DEG. AT	FT.
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.	1°	1580				
4 P.M. TO 12 P.M.						

DRILL STEM TESTS

NO.	INTERVAL	FORMATION

VALVE OPEN (MINS.) | INITIAL SHUT-IN (MINS.) | FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES	IHP	FHP	IFP	FFP	ISIP	FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
1200	1230	RIG SERVICE BLOW KELLY
1230	230	P.O.H.
230	245	CHANGE BITS, JETS, ✓ B.O.P'S
245	445	R.I.H. BIT NO 2
445	500	BREAK CIRC, CLEAN 15' TO BOTTOM
500	800	DRILL 30/35 M 110/120 RPM

DRILLER David Gridd NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
800	815	RIG SERVICE & B.O.P'S
815	945	DRILL 8 3/4" HOLE
945	1615	CONSERVATION BOARD CHECK
1015	1100	DRILL 8 3/4" HOLE
1100	1230	SURVEY & REPAIR 4" CAMRON ON FLOOR
1530	400	DRILL 8 3/4" HOLE

DRILLER Ray Stewart NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
400	415	RIG SERVICE & B.O.P'S
415	1130	DRILL 8 3/4" HOLE - 38M - 100RPM
1130	1200	WORK ON PUMPS

DRILLER NO. HELPERS

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 8/73

WELL NAME H.B. GULF FISHLAKE G-60		LDG. FLG. TO KB 12	
CONTRACTOR Commonwealth	TYPE RIG	K. B. ELEV. 1277	
RIG NO. 12	TOOL PUSHER Kon Plante.	GRD. ELEV. 1265	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START 740 PROGRESS 380 END 1120	START 1120 PROGRESS 311 END 1430

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
1	50786	X16	8¾				
	70855		8¾	Drilco Non Rotating Stabilizer.			
1RR	50786	X16	8¾	540	1120	508	12¾
	70855		8¾	Stabilizer.			
1RR	50786	X16	8¾	612	1430	690	20½
	70855		8¾	Stabilizer			

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12:00 – 8:00				
8:00 – 4:00	5½	600	120/110	20/30
4:00 – 12:00	6½ x 14	800	100	35,000

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12:00 – 8:00						
8:00 – 4:00	4"	8	0	20	0	
4:00 – 12:00	4	13	5 @ 5 3	20 @ 5 7/16	41	

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
8:00 – 4:00		8.8	35	High	9.5	
		8.9	34			

ADDITIVES (12:00 – 8:00): Gel 1600#, Caustic 50#, Di Gard 500#

ADDITIVES (8:00 – 4:00): Gel 3,500, VD68 3 gals., Caustic 750, CMC 100.

ADDITIVES (4:00 – 12:00): Gel, D.V. 68

CORING

NO.	FROM	TO	RECOVERED	FORMATION
8:00 – 4:00				
4:00 – 12:00		1100		

SURVEY

	DEG. AT	FT.	DEG. AT	FT.	DEG. AT	FT.
12:00 – 8:00						
8:00 – 4:00	1	830	1°	1050		
4:00 – 12:00	1°	1273				

DRILL STEM TESTS

	12:00 – 8:00	8:00 – 4:00	4:00 – 12:00
NO.			
INTERVAL			
FORMATION			
VALVE OPEN (MINS.)			
INITIAL SHUT-IN (MINS.)			
FINAL SHUT-IN (MINS.)			
GAS TO SURFACE	MIN. @ MCF/D MAX.	MIN. @ MCF/D MAX.	MIN. @ MCF/D MAX.
OIL TO SURFACE	MIN. @ BBL/D MAX.	MIN. @ BBL/D MAX.	MIN. @ BBL/D MAX.
RECOVERY:			
PRESSURES	IHP / FHP / IFP / FFP / ISIP / FSIP	IHP / FHP / IFP / FFP / ISIP / FSIP	IHP / FHP / IFP / FFP / ISIP / FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:20	Hoist Plugged Bit
12:20	12:45	Unplug Bit & DC (Plugged w/ 5" Gravel)
12:45	1:00	~~Trip In~~ Service Rig
1:00	2:15	Trip In
2:15	3:30	Check Pump & Clean Out Gravel
3:30	3:45	Pressure Test Pipe Rams
3:45	4:00	Pressure Test Hydril
4:00	8:00	Drill Out Cement & Clean To Btm
8:00	8:30	Clean Out To Bottom - 740'
8:30	8:45	Rig Service & BOP's
8:45	10:45	Drill 740'-867' - 150 RPM - 20M
10:45	11:15	Work Pipe Survey - 1° ~~1°~~
11:15	3:00	Drill 867 - 1087 - 120 - 30M
3:00	3:30	Work Hole Clean, Survey @ 1050 - 1°
3:30	4:00	Drill 1087 - 1120' 100 - 35M
4:00		Rig Service & B.O.P's & Weld
	4:30	Lubricator Box
4:30	8:30	Drill 4¾" Hole R.P.M. 100 35M
8:30	8:45	Survey @ 1273
8:45	12:00	Drill 8¾" Hole R.P.M. 100 35,000 W.O.B.

	12:00 – 8:00	8:00 – 4:00	4:00 – 12:00
DRILLER	Eric Tribiger	David Fadell	Ray Stewart
NO. HELPERS		4	4

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 8, 73

WELL NAME	Hudsons Bay Gulf Fishlake G-60	LDG. FLG. TO KB	12
CONTRACTOR	Commonwealth Drlg.	TYPE RIG	K. B. ELEV. 1277
RIG NO.	12	TOOL PUSHER	Ko Plante. GRD. ELEV. 1265

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. / INTERVAL / FORMATION

VALVE OPEN (MINS.) / INITIAL SHUT-IN (MINS.) / FINAL SHUT-IN (MINS.)

GAS TO SURFACE / MIN. @ / MCF/D MAX.

OIL TO SURFACE / MIN. @ / BBL/D MAX.

RECOVERY:

PRESSURES: IHP / FHP / IFP / FFP / ISIP / FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Pressure Test Weld To 2000 PSI
12:15	8:00	Nipple Up B.O.P.s
8:00	3:00	Nipple Up B.O.P. Manifold, Flare Line Pressure Test Blind Rams To 1050 PSI. Held OK
3:00	4:00	Lay Down 9" DC's
4:00		Lay Down DC, Install Kelly Hose
	5:00	R.I.H. With RR-1, Pick Up
5:00		Stabilizer - 8 3/4, Tagged Cement
	7:00	at 470'
7:00		Thaw Mud Line Blow Kelly
	11:15	(Circ) Plugged Bit
11:15	12:00	Hoist Bit

Stab picked up.

DRILLER Eric Jurgin NO. HELPERS 4 | DRILLER NO. HELPERS | DRILLER NO. HELPERS

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Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Nov 6/73.

WELL NAME	W.B. Gulf Fishhaka B60.	LDG. FLG. TO KB	12
CONTRACTOR	Commonwealth.	TYPE RIG	
RIG NO.	12.	TOOL PUSHER	Kplante.
		K. B. ELEV.	1277
		GRD. ELEV.	1265

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
	612	13 3/8	48	K55	1020		6 AM.	[illegible]

12 P.M. TO 8 A.M.

DEPTH: START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	2:30	Run 13 3/8 Casing.
2:30	3:30	Circ To Cement
3:30	6:00	Cementing.
6:00	8:00	W.O.C.

DRILLER Levi Zubiga NO. HELPERS 4

8 A.M. TO 4 P.M.

START / PROGRESS / END

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
800	400	W.O.C.

DRILLER David Todd NO. HELPERS

4 P.M. TO 12 P.M.

START / PROGRESS / END

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
400		Cut Conductor BBL. Casing
	1200	Weld On Casing Bowl

DRILLER NO. HELPERS

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REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Mar 5/72

WELL NAME	H.B. Golf Fishhake G60.	LDG. FLG. TO KB	12
CONTRACTOR	Commonwealth	K. B. ELEV.	1277
RIG NO.	12	GRD. ELEV.	1265
TYPE RIG			
TOOL PUSHER	Kilpatrick.		

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								Lozen

12 P.M. TO 8 A.M.

DEPTH: START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
	987	OSC3	17½				

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
8.20		31.00	455.32	41.55	7.09

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	10.3	[illegible]			

ADDITIVES Gel 1000 wt 10,000
Lost 50 Bbls mud
Jars.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	4	Cir. Cond. mud.
	8	Clean out. from 420' to 543'.

DRILLER NO. HELPERS

8 A.M. TO 4 P.M.

DEPTH: START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
4	987	OSC3	17½				

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4"	2		16-455.32	17	8.20 9.09

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	10.00	500.			

ADDITIVES Gel 1800 wt. 1000
Caustic 150 lb. Bi Carb 100 lbs
Sawdust. 15 sks.
Jars

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
6⁰⁰	10⁰⁰	Clean out 543' - 612'
	4	Cir. cond mud.

DRILLER David Todd NO. HELPERS 4

4 P.M. TO 12 P.M.

DEPTH: START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	9.8	300.			

ADDITIVES
Laydown Jars.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. / DEG. AT FT. / DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

FROM	TO	DESCRIPTION OF WORK
4	8	Tip out. lay downpipe.
	8¹⁵	R.S.
	9⁰⁰	Rig up csg.
	12⁰⁰	Run csg.

DRILLER NO. HELPERS

52 - 8BAX4
REV. 2/71Δ

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Mar 4/73.

WELL NAME	Hudson's Bay Gulf Fish Lake 6-60 -	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth.	TYPE RIG	
RIG NO.	22	TOOL PUSHER	Hollate.
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

12 P.M. TO 8 A.M.

DEPTH — START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
4	987	6543	17½				

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
		8.20	369.9	41.00	7.09.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	8.8	200			

ADDITIVES Gel 800 wt. 7500 caust. 50 Jars.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY — DEG. AT FT. — DEG. AT FT. — DEG. AT FT.

DRILL STEM TESTS

NO. — INTERVAL — FORMATION

VALVE OPEN (MINS.) — INITIAL SHUT-IN (MINS.) — FINAL SHUT-IN (MINS.)

GAS TO SURFACE — MIN. @ — MCF/D MAX.

OIL TO SURFACE — MIN. @ — BBL/D MAX.

RECOVERY:

PRESSURES — IHP — FHP — IFP — FFP — ISIP — FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12	12.15	R.S
12.15	1.45	Trip out
	2	Break bit remove jets.
	2.30	Repair steam line.
	4.15	Pick up jars trip in.
	4.45	Cleaning out.
	8.00	Well flowing
		Flowing 10 BM.

DRILLER Eric Turtogan NO. HELPERS 4

8 A.M. TO 4 P.M.

DEPTH — START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	9.3.	200			

ADDITIVES Gel 12,600 wt. 29500 Fiber. 10 silt. Sawdust 105 sks. caustic 300 Jars.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY — DEG. AT FT. — DEG. AT FT. — DEG. AT FT.

DRILL STEM TESTS

NO. — INTERVAL — FORMATION

VALVE OPEN (MINS.) — INITIAL SHUT-IN (MINS.) — FINAL SHUT-IN (MINS.)

GAS TO SURFACE — MIN. @ — MCF/D MAX.

OIL TO SURFACE — MIN. @ — BBL/D MAX.

RECOVERY:

PRESSURES — IHP — FHP — IFP — FFP — ISIP — FSIP

FROM	TO	DESCRIPTION OF WORK
	8.15.	R.S
	3.00	Mix mud.
	3.30	Kill well
	4.00	Mix mud.
		Flowing 10 BM.
		Killed at 3 PM.

DRILLER David Todd NO. HELPERS 4

4 P.M. TO 12 P.M.

DEPTH — START — PROGRESS — END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	10.2	200			

ADDITIVES Gel. 5600. wt. 10,500. Jars.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY — DEG. AT FT. — DEG. AT FT. — DEG. AT FT.

DRILL STEM TESTS

NO. — INTERVAL — FORMATION

VALVE OPEN (MINS.) — INITIAL SHUT-IN (MINS.) — FINAL SHUT-IN (MINS.)

GAS TO SURFACE — MIN. @ — MCF/D MAX.

OIL TO SURFACE — MIN. @ — BBL/D MAX.

RECOVERY:

PRESSURES — IHP — FHP — IFP — FFP — ISIP — FSIP

FROM	TO	DESCRIPTION OF WORK
	7.00	Mix mud.
	12.00	Circ cond mud.

DRILLER NO. HELPERS

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE MARCH 3/73

WELL NAME	HUDSONS BAY GULF FISHLAKE G-60	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH	TYPE RIG	UNIT 34D
RIG NO.	12	TOOL PUSHER	[illegible]
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								[illegible]

12 P.M. TO 8 A.M.

DEPTH: START | PROGRESS | END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	95.76		311.69	12.00	8.15

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

NO. | INTERVAL | FORMATION

VALVE OPEN (MINS.) | INITIAL SHUT-IN (MINS.) | FINAL SHUT-IN (MINS.)

GAS TO SURFACE | MIN. @ | MCF/D MAX.

OIL TO SURFACE | MIN. @ | BBL/D MAX.

RECOVERY:

PRESSURES: IHP | FHP | IFP | FFP | ISIP | FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	SERVICE RIG
12:15		WELD WINDOW IN CONDUCTOR PIPE +
	1:30	CLEAN OUT #1 PUMP.
1:30	2:15	TRIP IN W/ 17½" BIT.
2:15	3:00	REPAIR 4" CAMERON ON MUD LINE.
3:00	3:30	REAMING.
3:30	8:00	WORK STUCK PIPE.

DRILLER Eric Lubiger NO. HELPERS

8 A.M. TO 4 P.M.

START | PROGRESS | END

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

NO. | INTERVAL | FORMATION

VALVE OPEN (MINS.) | INITIAL SHUT-IN (MINS.) | FINAL SHUT-IN (MINS.)

GAS TO SURFACE | MIN. @ | MCF/D MAX.

OIL TO SURFACE | MIN. @ | BBL/D MAX.

RECOVERY:

PRESSURES: IHP | FHP | IFP | FFP | ISIP | FSIP

FROM	TO	DESCRIPTION OF WORK
8:00	9:00	WORK STUCK PIPE
9:00		DRILL PIPE PARTED TOP SINGLE 10' IN
		DEAD LINE JUMPE SHEAVE
	11:00	REPLACE DRILLING LINE ON SHEAVE
11:00		CHANGE ROTARY TABLE + SPROKETS
	4:00	WAIT ON JARS

DRILLER David Field NO. HELPERS 4

4 P.M. TO 12 P.M.

START | PROGRESS | END

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

NO.	FROM	TO	RECOVERED	FORMATION

DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

NO. | INTERVAL | FORMATION

VALVE OPEN (MINS.) | INITIAL SHUT-IN (MINS.) | FINAL SHUT-IN (MINS.)

GAS TO SURFACE | MIN. @ | MCF/D MAX.

OIL TO SURFACE | MIN. @ | BBL/D MAX.

RECOVERY:

PRESSURES: IHP | FHP | IFP | FFP | ISIP | FSIP

FROM	TO	DESCRIPTION OF WORK
4:00	8:00	WAIT ON JARS
8:00	9:45	MAKE UP FISHING ASSEMBLY.
9:45	10:15	FISHING + RECOVER FISH
10:15	12:00	BREAK DOWN FISHING ASSEMBLY

DRILLER NO. HELPERS

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Nov 2/73

WELL NAME	Hudsons Bay Gulf Fish Lake G-60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth	TYPE RIG	Unit 34
RIG NO.	12	TOOL PUSHER	Lamplante.
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: W.S.E.W.

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

12 PM to 8 AM:

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
13	RC889	DSC16	12¼				

8 AM to 4 PM:

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

4 PM to 12 PM:

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
13	RC889	DSC16	12¼				

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

12 PM to 8 AM: ADDITIVES

8 AM to 4 PM:

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	8.8	200			

ADDITIVES Gel 10,500 sawdust 65 sks. caustic 250 lbs. Lime 100 lbs. Ether 5 sks.

4 PM to 12 PM:

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES Gel 1300 lbs. caustic 50#

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 PM to 8 AM: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

8 AM to 4 PM: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

4 PM to 12 PM: DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 PM to 8 AM:

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	12¹⁵	Trip Out
12¹⁵	1³⁰	Remove Table To Drop Bit
1³⁰	2¹⁵	Replace Table
2¹⁵	8⁰⁰	Flowing Well

Well flowing water.
27 BPH @ 3 AM.
12 BPH @ 8 AM.

DRILLER Eric Dubois NO. HELPERS 4

8 AM to 4 PM:

FROM	TO	DESCRIPTION OF WORK
800	1000	Dump + clean mud tanks + pumps
1000	200	Wait on wt. material mix mud
200	330	Make up 12¼ bit + RIH to 400'
330	400	Pumped down slug controled water flow, circ. cond. mud

11 BPH @ 11 AM.
10 BPH @ 2 PM.

DRILLER David Friedel NO. HELPERS 4

4 PM to 12 PM:

FROM	TO	DESCRIPTION OF WORK
400	700	Cleaned out from 400' to 425 w/ 12¼
700	10³⁰	Circ. cond mud
10³⁰	11³⁰	Hoist 12¼" Bit
11³⁰	12⁰⁰	Cut window in conductor pipe

DRILLER NO. HELPERS

52 - 88AX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE March 1/73

WELL NAME Hudson Bay Rule Fishlake C60		LDG. FLG. TO KB	
CONTRACTOR Common with Th Drl	TYPE RIG Unit 34	K. B. ELEV.	
RIG NO. 12	TOOL PUSHER Lafleur	GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								WSW

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

12 P.M. TO 8 A.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

8 A.M. TO 4 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

4 P.M. TO 12 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

12 P.M. TO 8 A.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

8 A.M. TO 4 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

4 P.M. TO 12 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

12 P.M. TO 8 A.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

8 A.M. TO 4 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

4 P.M. TO 12 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

12 P.M. TO 8 A.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
ADDITIVES					

8 A.M. TO 4 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
ADDITIVES					

4 P.M. TO 12 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
ADDITIVES					

CORING

12 P.M. TO 8 A.M. NO.	FROM	TO	RECOVERED	FORMATION

8 A.M. TO 4 P.M. NO.	FROM	TO	RECOVERED	FORMATION

4 P.M. TO 12 P.M. NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

8 A.M. TO 4 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

4 P.M. TO 12 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

12 P.M. TO 8 A.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

8 A.M. TO 4 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

4 P.M. TO 12 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	2⁰⁰	Blow Kelly Hoist
2⁰⁰		Weld Bit Break Same
		Cut Window In Conductor
		Pipe Pick up new Bit
		& weld window back in
		& Clean Pump Suctions
	4⁰⁰	& Mud Tanks & work on Pumps

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8⁰⁰	8¹⁵	Service Rig
8¹⁵	9³⁰	Trip In
9³⁰	11⁰⁰	Attempt To Break Circ
11⁰⁰	12⁰⁰	Hoist To Check Bit + Jets
12⁰⁰	12⁴⁵	Check Mud Lines For Blockage.
12⁴⁵	1³⁰	Remove Kelly Hose
1³⁰	2¹⁵	Remove Unions From Kelly Hose
2¹⁵	4⁰⁰	Wait On Kelly Hose

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
400	700	Wait On Kelly Hose
700	830	Put On Unions Install Hose
830	1000	RIH To 400' Break Circ
1000	1200	Well Flowing Pull Out

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DRILLER	DRILLER Eric Tubiger	DRILLER David Todd
NO. HELPERS	NO. HELPERS 4	NO. HELPERS

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE FEB 28/73

WELL NAME HUDSON BAY GULF FISH LAKE G-60
CONTRACTOR COMMONWEALTH DRLG TYPE RIG UNIT 3
RIG NO. 12 TOOL PUSHER [illegible]

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 698 PROGRESS 42 END 740	START PROGRESS END	START PROGRESS END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
1	50786	XIR	9 3/4	612	740	128	4 1/2

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
	RERUN	OSC3	17E			5	

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
				12			

DRILLING DATA

12 P.M. TO 8 A.M.			
LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6 1/2	800	120	20,000

8 A.M. TO 4 P.M.			
LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

4 P.M. TO 12 P.M.			
LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

12 P.M. TO 8 A.M.					
SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

8 A.M. TO 4 P.M.					
SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

4 P.M. TO 12 P.M.					
SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

12 P.M. TO 8 A.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	10.5	300			

ADDITIVES CEL 1000
LIME 50#

8 A.M. TO 4 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

4 P.M. TO 12 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES 2500 : Gal.

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.		
1 3/4 DEG. AT 643 FT.	DEG. AT FT.	DEG. AT FT.

8 A.M. TO 4 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

4 P.M. TO 12 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT

DRILL STEM TESTS

12 P.M. TO 8 A.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

8 A.M. TO 4 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

4 P.M. TO 12 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS
GAS TO SURFACE MIN. @ MCF/D
OIL TO SURFACE MIN. @ BBL/D
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FS

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12 00	12 15	Rig Service & Survey
12 15	1 15	Work Pipe & Condition Mud
1 15	2 15	Drill 8 3/4" Hole
2 15		Circ & Condition Mud
	4 00	To Run Casing
4 00	6 00	Blow Kelly & Hoist (Tight)
6 00		Cut Window in Conductor
		Pipe Pick up 11 1/2" Bit
		Weld Window Back in

DRILLER Ray [illegible] NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8 00	8 15	Service Rig.
8 15	9 00	Run In w/17 1/2" Bit
9 00	10 30	Hit Bridge @ 390 Circ + Ream Bridge
10 30	12 00	Hoist To Remove Plugged Jets.
12 00		Cut Window In Conductor Pipe, Break
		Bit, Remove Jets, Make Up Bit +
	2 30	Weld Window Into Conductor Pipe
2 30	3 30	Trip In
3 30	4 00	Clean Out Bridges. 400 + 455

DRILLER Eric [illegible] NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4 00	5 30	Reaming Bridges to 455
5 30	6 30	Clean Out Pumps + Condition M
6 30	12 00	Clean Out Hole + Condition

DRILLER Ray [illegible] NO. HELPERS 4

52 - 8B - X4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE FEB 27/73

WELL NAME	HUDSON BAY GULF FISH LAKE G-60	LDG. FLG. TO KB	
CONTRACTOR	COMMONWEALTH DRL	TYPE RIG	UNIT 34
REG NO.	12	TOOL PUSHER	Bill Olente.
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 477 PROGRESS 105 END 582	START 582 PROGRESS 30 END 612	START 612 PROGRESS 86 END 698

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.							
3A	NX596	OSC-3J	17½	430	582	152	11½
8 A.M. TO 4 P.M.							
3A	NX596	OSC-3J	17½	430	612	182	14¼
4 P.M. TO 12 P.M.							
1	50786	XIC	9¾	612	698	86	6½

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	6½	800	80-90	20-25 M#
8 A.M. TO 4 P.M.	6½	800	80	20-25
4 P.M. TO 12 P.M.	6½	800	120	20000

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.				2-9" 3-7" 1-6"		
8 A.M. TO 4 P.M.						
4 P.M. TO 12 P.M.						

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.	3%					
4 P.M. TO 12 P.M.		10.5	200			

ADDITIVES
- 12 P.M. TO 8 A.M.: 1700 GEL; 30 SKS SAWDUST; 10# LIME
- 8 A.M. TO 4 P.M.: SAWDUST 10 SKS
- 4 P.M. TO 12 P.M.: GEL 4000#; 50# CAUSTIC; 10# LIME

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.	1⅛ DEG. AT 459 FT.	1½ DEG. AT 554 FT.	DEG. AT FT.	
8 A.M. TO 4 P.M.	-2 DEG. AT 580 FT.	DEG. AT FT.	DEG. AT FT.	
4 P.M. TO 12 P.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.	

DRILL STEM TESTS

NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12 00	1 00	DRILL 17½" HOLE
1 00	1 15	RIG SERVICE & SURVEY
1 15	5 15	DRILL 17½" HOLE
5 15	5 30	SURVEY
5 30	8 00	DRILL 17½" HOLE
		Well making water 450'-475'
8 00	8 15	SERVICE RIG
8 15	8 30	SURVEY
8 30	11 15	DRILL
11 15	12 00	CIRC & WORK PIPE
12 00	1 30	TRIP OUT & MEASURE
1 30		CUT CONDUCTOR PIPE & BREAK BIT #3 DUMP & CLEAN MUD TANKS WELD WINDOW BACK INTO CONDUCTOR PIPE STAND BACK
	4 00	9" DRILL COLLARS
2 00	4 15	SERVICE RIG
4 15		PICK UP 7" DRILL COLLARS &
	6 15	RUN IN
6 15	6 30	CLEAN TO BOTTOM
6 30	12 00	DRILL 8¾" HOLE

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DRILLER	Ray Stern	Eric Tulsign	Ray Stern
NO. HELPERS	4		4

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE FEB 25 1973

WELL NAME Hudson Bay Oil Fish Lake 6-60
CONTRACTOR Commonwealth Drlg. TYPE RIG Unit 34
RIG NO. 12 TOOL PUSHER

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR [illegible]

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START 2 88 PROGRESS 142 END 430	START PROGRESS END	START PROGRESS END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
2A	PX971	OSC-3J	17½	23	430	200	9½

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
3A	NX596	OSC3	17½	430		0	0

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
3-A	NX596	17½	OSC3	430	477	47	4

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
6½			

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
4	63.76		12 343.76	13.19	9.30

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
	11.	100			

ADDITIVES: DCS. 2-90, 3-70, 7-60

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES: 2000 Gel, 25# Caustic, 25# Lime

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

¾ DEG. AT 358 FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

NO.	INTERVAL	FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	12¹⁵	Rig Service
12¹⁵	3³⁰	Drill 17½" Hole
3³⁰	4⁰⁰	Work hole Clean & Survey
4⁰⁰	4⁰⁰	Drill 17½" Hole

DRILLER [signature] NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
8⁰⁰	8¹⁵	Service Rig.
8¹⁵	9¹⁵	Lay Down Drl Pipe.
9¹⁵	9⁴⁵	Trip Out
9⁴⁵	11⁰⁰	Clean Mud Tanks
11⁰⁰	1⁰⁰	Change Bits
1⁰⁰	1³⁰	Run In D.C.
1³⁰	3⁰⁰	Pick Up DCs 7-6"
3⁰⁰	4⁰⁰	Break Circ. & Work On Boiler

DRILLER [signature] NO. HELPERS 4

FROM	TO	DESCRIPTION OF WORK
4⁰⁰	8⁰⁰	Work on Boilers & Mix Mud
8⁰⁰	12⁰⁰	Drill 17½" Hole

DRILLER [signature] NO. HELPERS 4

52 - 8BAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Feb 25/73

WELL NAME Hudson Bay Gulf Fish Lake C-60
CONTRACTOR Commonwealth Drlg TYPE RIG Unit 37
RIG NO. 12 TOOL PUSHER Jim Plante

LDG. FLG. TO KB
K. B. ELEV.
GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR

DEPTH

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
START 0 PROGRESS 80 END 80	START PROGRESS END	START 230 PROGRESS 58 END 288

BIT RECORD

	NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN
12 P.M. TO 8 A.M.	1A	PX743	OSC3	17½	0	80	80	7
8 A.M. TO 4 P.M.	1A	PX943	OSC3	17½	80	230	150	14½
4 P.M. TO 12 P.M.	2A	PX971	OSC-3	17½	230	288	58	2½

DRILLING DATA

	LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT
12 P.M. TO 8 A.M.	5½	400	180	15,000
8 A.M. TO 4 P.M.	6½	800	180	15
4 P.M. TO 12 P.M.	6½	800	180	10,000

DRILLING STRING

	SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.
12 P.M. TO 8 A.M.	9					
8 A.M. TO 4 P.M.	4"	61.88		119.57	40.00	9.30
4 P.M. TO 12 P.M.	4"			-		

MUD RECORD

	TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
12 P.M. TO 8 A.M.						
8 A.M. TO 4 P.M.			DC 3	7-9 / 3-7	11	
4 P.M. TO 12 P.M.						

12 P.M. TO 8 A.M. ADDITIVES Gel 500

8 A.M. TO 4 P.M. ADDITIVES Gel 1000#
Caustic 50#

4 P.M. TO 12 P.M. ADDITIVES Gel 500#

CORING

	NO.	FROM	TO	RECOVERED	FORMATION
12 P.M. TO 8 A.M.					
8 A.M. TO 4 P.M.	Drum E	10#			
4 P.M. TO 12 P.M.					

SURVEY

12 P.M. TO 8 A.M.	DEG. AT FT.	DEG. AT FT.	DEG. AT FT.
8 A.M. TO 4 P.M.	½ DEG. AT 110 FT.	DEG. AT FT.	DEG. AT FT.
4 P.M. TO 12 P.M.	¾ DEG. AT 230 FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

12 P.M. TO 8 A.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

8 A.M. TO 4 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

4 P.M. TO 12 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12⁰⁰	1⁰⁰	Break off bit & pick up 9"
	1⁰⁰	Collar & subs
1⁰⁰		Spud w/ 17½" bit & drlg

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8⁰⁰	8¹⁵	Service Rig
8¹⁵	9³⁰	Drill
9³⁰	9⁴⁵	Survey
9⁴⁵	4⁰⁰	Drill
		Boulder & gravel 160'–210'

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4⁰⁰	4¹⁵	Survey
4¹⁵	4³⁰	Service Rig
4³⁰	5¹⁵	Hoist Bit #1A
5¹⁵		Cut Conductor Bbl + [redacted]
		[redacted] Weld Bit To Table
		+ Break Bit Make Up New Bit
	8⁴⁵	Weld Conductor Pipe
8⁴⁵	9³⁰	Run in
9³⁰	12⁰⁰	Drill 17½" Hole

DRILLER Ray Stewart NO. HELPERS 4 | DRILLER Eric Lubiger NO. HELPERS 4 | DRILLER Ray Stewart NO. HELPERS 4

52 - 8CAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE FEB 24/93

WELL NAME	HUDSON BAY GULF ET AL FISH LAKE	LDG. FLG. TO KB	
CONTRACTOR	COMMONWELTH DRLG	TYPE RIG	UNIT 37
RIG NO.	12	TOOL PUSHER	Jim Plante.
		K. B. ELEV.	
		GRD. ELEV.	

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								WEW

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

12 P.M. TO 8 A.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

8 A.M. TO 4 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

4 P.M. TO 12 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

12 P.M. TO 8 A.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

8 A.M. TO 4 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

4 P.M. TO 12 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

12 P.M. TO 8 A.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

8 A.M. TO 4 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

4 P.M. TO 12 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

12 P.M. TO 8 A.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES 3000 Gel

8 A.M. TO 4 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES 1000# GEL
50# CAUSTIC

4 P.M. TO 12 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

12 P.M. TO 8 A.M. NO.	FROM	TO	RECOVERED	FORMATION

8 A.M. TO 4 P.M. NO.	FROM	TO	RECOVERED	FORMATION

4 P.M. TO 12 P.M. NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

8 A.M. TO 4 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

4 P.M. TO 12 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL-STEM TESTS

12 P.M. TO 8 A.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

8 A.M. TO 4 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

4 P.M. TO 12 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M. FROM	TO	DESCRIPTION OF WORK
12:00		Rig To Dig Rat Hole & weld on Conductor Nipple
	1:00	& mix mud
1:00	8:00	Dig Rat Hole

8 A.M. TO 4 P.M. FROM	TO	DESCRIPTION OF WORK
8:00	10:30	Dig Rat Hole
10:30	11:00	Rig To Dig Mouse Hole
11:00	1:00	Dig Mouse Hole
1:00	5:00	Instal Flowline + Mix Mud

4 P.M. TO 12 P.M. FROM	TO	DESCRIPTION OF WORK
	5:00	Clean Out Pumps
5:00	6:00	Break 17½" Bit Make Up 12¼"
6:00	7:30	Drill 12¼" Hole
7:30	8:00	Break 12¼" Bit
8:00		Make up 17½" Bit cut Conductor
		BBL & weld up Same

12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DRILLER Ray Stum	DRILLER Terrie Tuberger	DRILLER Ray Stum
NO. HELPERS 4	NO. HELPERS 4	NO. HELPERS 4

52 - BBAX4
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE FEB 23/73

WELL NAME	H.B. Cozi Fish Lake C 60	LDG. FLG. TO KB	
CONTRACTOR	Commonwealth Drlg TYPE RIG Unit 34	K. B. ELEV.	
RIG NO.	12	TOOL PUSHER Tom Stante	GRD. ELEV.

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN	COMPANY SUPERVISOR
								WOW

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

12 P.M. TO 8 A.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

8 A.M. TO 4 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

4 P.M. TO 12 P.M. NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

12 P.M. TO 8 A.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

8 A.M. TO 4 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

4 P.M. TO 12 P.M. LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

12 P.M. TO 8 A.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

8 A.M. TO 4 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

4 P.M. TO 12 P.M. SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

12 P.M. TO 8 A.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

8 A.M. TO 4 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

4 P.M. TO 12 P.M. TYPE OF MUD	WEIGHT	VIS	WL	PH	FC
Drilled 20" to 37 feet, bucket opened up to 26" w/ Tri Cone set 20" Conductor @ 34 feet. Cemented with 30 sks Cement. Unable to drill any deeper due to boulders					

ADDITIVES

CORING

12 P.M. TO 8 A.M. NO.	FROM	TO	RECOVERED	FORMATION

8 A.M. TO 4 P.M. NO.	FROM	TO	RECOVERED	FORMATION

4 P.M. TO 12 P.M. NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

12 P.M. TO 8 A.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

8 A.M. TO 4 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

4 P.M. TO 12 P.M.		
DEG. AT FT.	DEG. AT FT.	DEG. AT FT.

DRILL STEM TESTS

12 P.M. TO 8 A.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

8 A.M. TO 4 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)
GAS TO SURFACE MIN. @ MCF/D MAX.
OIL TO SURFACE MIN. @ BBL/D MAX.
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP FSIP

4 P.M. TO 12 P.M.
NO. INTERVAL FORMATION
VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS
GAS TO SURFACE MIN. @ MCF/D
OIL TO SURFACE MIN. @ BBL/D
RECOVERY:
PRESSURES IHP FHP IFP FFP ISIP F

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

12 P.M. TO 8 A.M.

FROM	TO	DESCRIPTION OF WORK
12:00	12:15	Rig Service
12:15	3:00	Ream to 36" Hole To Bulder
3:00	6:30	Dig Conductor Hole
6:30	8:00	Weld on Bucket

DRILLER Ray Stann NO. HELPERS 4

8 A.M. TO 4 P.M.

FROM	TO	DESCRIPTION OF WORK
8:00	4:00	Dig Conductor Hole

DRILLER Eric Sulzer NO. HELPERS 4

4 P.M. TO 12 P.M.

FROM	TO	DESCRIPTION OF WORK
4:00	7:30	Dig Conductor Hole.
7:30	8:00	Break Down Reamer Hook Up
8:00	9:00	Pull out Tools & Run Conductor
9:00	12:00	Cement Conductor Pipe

DRILLER Ray Stann NO. HE

52 - BBAM
REV. 2/71

Hudson's Bay Oil and Gas Company Limited

DAILY DRILLERS REPORT

DATE Feb. 22/73

WELL NAME	Fish Lake 660	LDG. FLG. TO KB	
CONTRACTOR	12	K. B. ELEV.	
RIG NO.	TYPE RIG	GRD. ELEV.	
	TOOL PUSHER		

CASING RECORD	DEPTH	SIZE	WEIGHT	GRADE	CEMENT	ADD.	PLUG DOWN

COMPANY SUPERVISOR: WEW

	12 P.M. TO 8 A.M.	8 A.M. TO 4 P.M.	4 P.M. TO 12 P.M.
DEPTH	START / PROGRESS / END	START / PROGRESS / END	START / PROGRESS / END

BIT RECORD

NO.	SERIAL NO.	TYPE	SIZE	FROM	TO	FOOTAGE	HRS. RUN

DRILLING DATA

LINER SIZE	PUMP PRESSURE	TABLE SPEED	WEIGHT ON BIT

DRILLING STRING

SIZE	STANDS	SINGLES	DRILL COL.	KELLY IN	CORE BBL.

MUD RECORD

TYPE OF MUD	WEIGHT	VIS	WL	PH	FC

ADDITIVES

CORING

NO.	FROM	TO	RECOVERED	FORMATION

SURVEY

DEG. AT FT. | DEG. AT FT. | DEG. AT FT.

DRILL STEM TESTS

NO. INTERVAL FORMATION

VALVE OPEN (MINS.) INITIAL SHUT-IN (MINS.) FINAL SHUT-IN (MINS.)

GAS TO SURFACE MIN. @ MCF/D MAX.

OIL TO SURFACE MIN. @ BBL/D MAX.

RECOVERY:

PRESSURES: IHP FHP IFP FFP ISIP FSIP

REMARKS INCLUDING: CEMENTING, LOGGING, PERFORATING, ACIDIZING, FRACTURING, PLUGS

FROM	TO	DESCRIPTION OF WORK
9:00	12:00	DIG CONDUCTOR HOLE
12:00	1:30	WELD ON BUCKET
1:30	2:30	DIG CONDUCTOR HOLE (BOLDER)
2:30	3:30	CHANGE ROTARY CHAIN
3:30	4:00	DRILL ON BOLDER
4:00	5:30	DRL ON BOLDER
5:30		BREAK DOWN BUCKET. HOOK UP
	6:30	MAKE UP 26" TRI CONE BIT
6:30	12:00	REAM 20" TO 26"

DRILLER: Guy Thom — NO. HELPERS 3

DRILLER: Gene Tuhagin — NO. HELPERS 4